Step 2
INTERREG VB NWE Application Form

A. PROJECT OVERVIEW

Project identification

Project title	**HeatNet: Transition strategies for delivering low carbon district heat**				
Project acronym	**HeatNet NWE**		Project Number		**NWE 95**
Name of the Lead partner organisation in English	City of Dublin Energy Management Agency Ltd				
Project duration in months	46 months	Start date	15-Sep-2016	End date	14-Jul-2020
Programme priority	Priority Axis 2 Low carbon				
Programme priority specific objective	SO2: To facilitate the implementation of low-carbon, energy and climate protection strategies to reduce GHG emissions in NWE				
Total budget ERDF					**6 913 911.28**
Total budget					**11 523 185.53**

Project summary

Please give a short description of the project in the four languages of the Programme:
Issue:

- Which issue/challenge will the project address?
- Where will the project address it (territory)?

Change:

- What is the current trend in the field? How much will the project change the current situation (please quantify the objective in volume or value)?

Outputs:

- Which main outputs/pilots/investments will the project produce to achieve this change?

Long term effects:

- How and where does the project plan to sustain and roll-out its main outputs/pilots/investments after the end of the project?

DE

Das HeatNet Projekt leistet einen Beitrag zur CO2 Reduzierung in NEW. Dazu werden an sechs Standorten in UK, Irland, Belgien, Frankreich und den Niederlanden Maßnahmen getestet und umgesetzt um den Anteil von Fernwärme und –kälte (FWK) aus erneuerbaren Energien (und Abwärme) bei der Versorgung von Wohn- und Gewerbegebäuden zu erhöhen.
Der Anteil der FWK beträgt in Nord-, Ost- und Mitteleuropa bereits 50%, in NWE lediglich 2-7%. FWK fördert Energieeffizienz, Treibhausgasreduzierung und eine nachhaltigere Wirtschaft. Das übergeordnete Ziel ist die Einführung der 4. Generation der FWK (4FWK) in NWE. Kennzeichnend sind Niedertemperaturverteilnetze zur Minimierung der Wärmeverluste, integrierte Wärmespeicherung sowie Versorgung von Niedrigenergiehäusern.
Das Konzept erfordert die Entwicklung neuer institutioneller & organisatorischer Rahmenbedingungen. 15,000t CO2 werden jährlich eingespart.
Die wichtigsten Outputs: 1. Übertragbares HeatNet-Modell für die Verwirklichung von 4FWK Netzen in NEW. Es beinhaltet technische (transnationale) sowie institutionelle & organisatorische (regionale) Aspekte; 2. Sechs Living Labs um das HeatNet-Modell robust zu machen; 3. Lokale Roadmaps zur Umsetzung neuer technischer, institutioneller & organisatorischer Maßnahmen in 8 Living Labs (neue Rollen und Verantwortlichkeiten der Handlungsträger, Richtlinien & Politik, Raumplanung, Geschäftsmodelle & Durchführbarkeit, Finanzier- und Machbarkeit, Akzeptanz, etc.); 4. Promotion und Förderung des HeatNet-Modells in NWE, um die Langzeitwirkung von HeatNet zu garantieren. Das Konsortium bringt umfassendes NWE-Knowhow zu 4DHC (Mijnwater BV, Forschung, Energieplaner) zusammen mit der Kapazität instit. & org. Barrieren abzubauen und dauerhafte Infrastruktur auf regionaler und lokaler Ebene aufzubauen. Der weitgefächerte Erfahrungsschatz der Partner erlaubt es gemeinsam das HeatNet-Modell zu entwickeln und den 6 erfolgreichen Living Labs in den Pilotstädten zu assistieren

EN

HeatNet will address the challenge of reducing CO_2 emissions in NWE by creating an integrated transnational NWE approach to the supply of renewable and low carbon heat (incl. waste heat) to residential and commercial buildings, developed and tested in 6 local district heating and cooling networks (DHC) in UK, Ireland, Belgium, France, and the Netherlands.
In North, East and Central Europe DHC supplies up to 50% of heat demand but in NWE only 2-7%. DHC facilitates energy efficiency, less CO2 emissions and a greener economy. The overall objective is to introduce and demonstrate the 4th generation DHC (4DHC) in NWE. This is a low-temperature distribution system to minimise heat loss, integrated energy storage and supply to multiple low energy buildings.
The concept requires the development of new institutional and organizational frameworks. The project will result in 15,000 t CO2e saved per annum at its end.
The main outputs are: 1. A transferrable HeatNet-model for the implementation of 4DHC schemes in NWE; 2. Six living labs develop, test and demonstrate through investments the HeatNet-model to make it robust; 3. Transition Roadmaps plan for roll out of new technical, institutional & organizational arrangements in 6 living labs (new roles and responsibilities of stakeholders, regulation & policies, spatial planning, business models & viability, connection to finance and markets, acceptance, etc); 4. Promotion and fostering of the HeatNet-model in NWE through Transition Roadmaps to secure wide and long term impact of HeatNet.
The consortium combines emerging NWE-knowhow on 4DHC (Mijnwater BV, academic, energy planning) with the capacity in the long term to reduce institutional & organizational barriers and to deliver permanent infrastructure at local and regional level. Multiple partners expertise is diverse and needed to jointly develop and promote the HeatNet-model and assist 6 successful living labs at the investment sites

FR

Le projet HeatNet répond au défi de la réduction des émissions de CO2 en ENO par une approche intégrée visant à fournir de la chaleur renouvelable et bas carbone (dont chaleur fatale) aux habitations/commerces. Cette approche est développée et testée grâce à 6 projets de réseaux de chaud et de froid (RCF) R-U, Irlande, Belgique, France & Pays-Bas. 50% de la demande de chaleur est assuré par les RCF en Europe Centrale, du Nord et de l'Est contre 2 à 7% en ENO. Ils permettent d'optimiser l'efficacité énergétique, réduction des émissions de CO2 et économie verte. L'objectif global est d'introduire et tester la 4ème génération de RCF (4RCF) système de distribution à basse température minimisant les pertes de chaleur, système intégré de stockage de l'énergie et relié à des bâtiments basse consommation. Ce concept nécessite de nouveaux cadres institutionnels et organisationnels. À la fin du projet, 15 000 tCO2/an auront été économisées. Principales réalisations: 1. 1 modèle HeatNet reproductible en ENO pour les projets de 4RCF; 2. Six laboratoires pour tester, démontrer et consolider ce modèle (investissements); 3. 1 feuille de route pour la transition avec les nouvelles dispositions techniques, institutionnelles et organisationnelles de ces laboratoires (nouveaux rôles et responsabilités des acteurs des RCF, législations, politiques, aménagement du territoire, modèles commerciaux et viabilité, finance, marché, acceptation); 4. Valorisation et promotion du modèle HeatNet en ENO par la feuille de route pour un vaste impact sur le long terme. Le groupement combine des savoir-faire émergents sur la 4RCF en ENO (Mijnwater BV, universités, planification énergétique) avec la capacité sur le long terme de minimiser les obstacles institutionnels et organisationnels par des infrastructures permanentes au niveau local et régional. Ces expertises diverses sont nécessaires pour développer conjointement le modèle HeatNet et le promouvoir avec l'aide des 6 laboratoires pilotes.

NL

Binnen de transitie naar een koolstofarm energiesysteem is in NWE maatwerk nodig voor de uitrol van stadsverwarming en koeling (DHC). DHC kan in EU een marktaandeel van 30% hebben in 2030. In Noord-, Oost- en Midden-EU levert DHC tot 50% van de warmte, in NWE slechts 2 à 7%. DHC faciliteert energie-efficiëntie, minder CO2 en een groenere economie.
De algemene doelstelling is de introductie en demonstratie van 4e generatie DHC (4DHC) in NWE. 4DHC wordt elders getest en staat voor een CO2-arm energiesysteem dat gebruik maakt van meerdere duurzame warmtebronnen (incl. restwarmte), lagetemperatuurnetten voor minimaal warmteverlies, geïntegreerde energieopslag en compatibiliteit met energieneutrale gebouwen. Dit concept vereist wel de ontwikkeling van nieuwe institutionele en organisatorische kaders. Het project beoogt een jaarlijkse besparing van 55000 ton CO2eq.
Outputs: 1. Een transfereerbaar HeatNet-model die technische (transnationale) en institutionele & organisatorische (regionale) aspecten verbindt as voorwaarde voor implementatie van 4DHC in NWE; 2. Zes living labs die het HeatNet-model testen, demonstreren en robuuster maken; 3. Investeringen in 4DHC en toepassing van technische, institutionele en organisatorische maatregelen in 6 living labs (nieuwe rollen en verantwoordelijkheden van stakeholders, regelgeving, beleid, ruimtelijke ordening, lokale en regionale roadmaps, business modellen, betrokkenheid marktactoren, acceptatie...); 4. Promotie en stimuleren van toepassing van het HeatNet-model buiten de 6 living labs om de lange-termijn-impact van in NWE te verzekeren.
Het consortium combineert ontluikende NWE-knowhow rond 4DHC (Minewater BV, kennispartners, etc) met de capaciteit om op lokaal en regionaal niveau tot realisatie te komen (institutionele & organisatorische barrières). De expertise van partners is divers maar nodig om samen het HeatNet-model te ontwikkelen en promoten, en om 6 succesvolle living labs te begeleiden

Workplan overview

WP	Type	Title	Partner in charge	Total budget
WP M	management	Project management	City of Dublin Energy Management Agency Ltd (lp)	1 108 521.36
WP LT	long term effects	Long Term	City of Dublin Energy Management Agency Ltd (pp 1)	1 134 100.78
WP T2	implementation	Evaluation	Hogeschool van Amsterdam (pp 9)	532 730.63
WP T3	implementation	HeatNet Model	Centre d'études et d'expertise sur les risques, l'environnement, la mobilité et l'aménagement (pp 14)	740 942.96
WP I1	investment	Plymouth Living Lab	Plymouth City Council (pp 2)	1 541 087.91
WP I2	investment	South Dublin Living Lab	South Dublin County Council (pp 13)	1 025 426.00
WP I3	investment	Aberdeen Living Lab	Aberdeen City Council (pp 11)	726 347.50
WP I4	investment	Kortrijk Living Lab	Stad Kortrijk (pp 4)	1 428 859.50
WP I5	investment	Heerlen Living Lab	Mijnwater B.V. (pp 12)	1 607 530.04
WP I6	investment	Boulogne sur Mer Living Lab	Ville de Boulogne-sur-Mer (pp 7)	1 183 645.56
WP C	communication	Communication	Energy Cities (pp 6)	493 993.29
Total				11 523 185.53

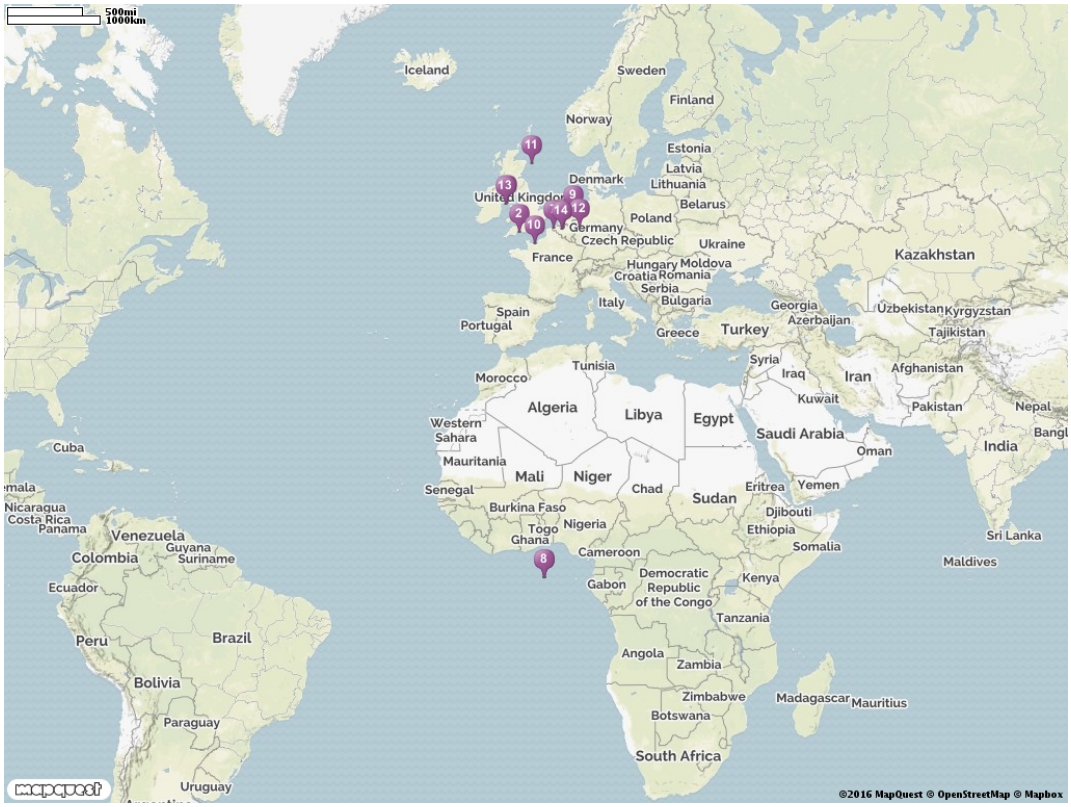
Project partners overview (LP and PP only)

Partner nr	Name of the organisation	Abbreviation	Total ERDF budget	Total budget	Country
1	City of Dublin Energy Management Agency Ltd	Codema	690 253.51	1 150 422.52	IE
2	Plymouth City Council	PCC	1 045 401.35	1 742 335.59	UK
3	CAP 2020 asbl	CAP 2020	241 813.10	403 021.84	BE
4	Stad Kortrijk	Kortrijk	809 401.50	1 349 002.50	BE
5	Intercommunale Leiedal	Leiedal	179 850.00	299 750.00	BE
6	Energy Cities	ECN	190 009.50	316 682.50	FR
7	Ville de Boulogne-sur-Mer	BsM	846 293.76	1 410 489.60	FR
8	Universiteit Gent	UoG	210 183.00	350 305.00	BE
9	Hogeschool van Amsterdam	HvA	217 089.52	361 815.88	NL
10	Les 7 Vents	L7V	215 100.39	358 500.66	FR
11	Aberdeen City Council	ACC	608 485.50	1 014 142.50	UK
12	Mijnwater B.V.	Mijnwater	979 147.26	1 631 912.11	NL
13	South Dublin County Council	SDCC	564 643.80	941 073.00	IE
14	Centre d'études et d'expertise sur les risques, l'environnement, la mobilité et l'aménagement	CER	116 239.09	193 731.83	FR
Sub-total for partners inside			6 913 911.28	11 523 185.53	
Sub-total for partners outside			0.00	0.00	
Total			6 913 911.28	11 523 185.53	

Project partners and subpartners overview (LP and PP only)

Partner nr	Partner role	Name of organisation	Country	Total budget
1	LP	City of Dublin Energy Management Agency Ltd	IE	1 150 422.52
2	PP	Plymouth City Council	UK	1 742 335.59
	Subpartner 1	University of Plymouth (UoP)		50 000.00
		Percentage of partner total budget: 0.03	Total	50 000.00
3	PP	CAP 2020 asbl	BE	403 021.84
4	PP	Stad Kortrijk	BE	1 349 002.50
5	PP	Intercommunale Leiedal	BE	299 750.00
6	PP	Energy Cities	FR	316 682.50
7	PP	Ville de Boulogne-sur-Mer	FR	1 410 489.60
	Subpartner 1	Habitat du Littoral		499 893.00
		Percentage of partner total budget: 0.35	Total	499 893.00
8	PP	Universiteit Gent	BE	350 305.00
9	PP	Hogeschool van Amsterdam	NL	361 815.88
10	PP	Les 7 Vents	FR	358 500.66
11	PP	Aberdeen City Council	UK	1 014 142.50
	Subpartner 1	Aberdeen Heat and Power		44 400.00
		Percentage of partner total budget: 0.04	Total	44 400.00
12	PP	Mijnwater B.V.	NL	1 631 912.11
13	PP	South Dublin County Council	IE	941 073.00
14	PP	Centre d'études et d'expertise sur les risques, l'environnement, la mobilité et l'aménagement	FR	193 731.83

Project map



B. PROJECT DESCRIPTION

Relevance

Context and territorial analysis

- What socio-economic issue / challenge in NWE is your project adressing?
- What are the current situation and trends in the sector / field adressed by your project?
- What can be the added value of territorial cooperation in North West Europe in this sector / field?

Heating and cooling (H&C) accounts for around half of the EU's energy consumption, 84% of which is generated from fossil fuels while the share of renewables is very low. Therefore the H&C sector is key to Europe's competitiveness and supply security. In 2008 the total heat losses of the entire EU27 energy system after end use were 39.3 EJ, which is three times more heat than the total heat requirements for all domestic and commercial buildings. Through District Heating & Cooling (DHC) networks this waste heat can be utilised, fossil fuel use and greenhouse gases reduced, and sources of low carbon and renewable heat integrated.
Currently DHC is most widely used in North, Central and Eastern Europe, with market shares often greater than 50%, in comparison to the NWE average of only 5%. Many advanced countries are now moving to best-practice 4th Generation DHC (4DHC), while NWE is currently 'locked-in' to the current heating sector norms (i.e. individual fossil fuel systems) and therefore find it difficult to 'un-lock' the many socio-economic benefits of 4DHC. Integrating low-carbon heat sources is a challenge, and one of the key innovations of 4DHC systems is the ability to integrate multiple sources of heat, including co-generation, renewable and 'waste' heat (heat that is a waste resource from another process) into an overall flexible smart energy system which optimises all energy production and consumption. This enables urban areas to make better use of low-cost, low-carbon local resources, increase security of supply, lower heating costs and facilitate the transition to an overall sustainable energy system.
The conditions in NWE are no different to the rest of the EU in terms of technical feasibility for DHC: the same 4DHC technical fundamentals that are applied in Denmark and Sweden can be applied any NWE region. The challenge is the disparities in DH development which stem from differences in policy, regulation, planning, experience, knowledge, finance and economic conditions.
One of the key reasons DHC has not developed in NWE is because heat is not effectively targeted in national level policy, planning and strategies as it is inherently a local level issue, but at a local level, there are no requirements, expectations or experience to plan for heat supply. Local authorities in NWE are therefore not in a position to confidently facilitate the development/extension of DHC or include DHC policy into their energy strategies and plans due to a lack of knowledge, experience and working examples. DHC development requires a long-term vision and plan, therefore local authority involvement is key for DHC development, and this is evident from other countries with high levels of DHC and from the DH developments which have already been successful in NWE.
NWE regions have a commonality in terms of the low uptake of DHC, and this links them together and gives them a shared interest. There is no easy plug-and-play solution for integrating high levels of DHC from other regions outside NWE, as their development pathways are not comparable due to the many organisational disparities already outlined. Therefore, it is only through territorial cooperation of stakeholders from NWE regions that a custom-made NWE innovative solution be achieved, which will lead to accelerated uptake of DHC and transition to 4DHC systems in NWE.
Many already funded EU projects showcase best practice low-carbon DHC technological solutions and transition pathways of other countries with high % of DHC (Celsius, SmartReFlex, GeoDH, FLEXYNETS, EcoHeat4EU, ProgRESsHeat) but none are specifically aligned to the needs of NWE, which are not technology focussed and cannot exactly replicate the transition pathways of other countries. NWE regions need to establish transition pathways that suit their own particular situation, found through a coordinated and interdisciplinary approach to knowledge sharing, support and on-the-ground action.

Project scope

- What will be the project's specific focus within the sector / field?
- How is the project going beyond the existing situation and / or practices in the sector / field?
- What are the main outputs / pilots / investments envisaged?

The focus of HeatNet is to overcome the financial, regulatory and organisational barriers preventing the development of DHC in NWE, and to introduce 4DHC as best practice. The partnership has identified common and barriers, but the issues and solutions are not well understood. HeatNet seeks to narrow the disparities in DHC development between NWE regions and the rest of the EU to allow the NWE heat sector take full advantage of the socio-economic benefits of DHC.

Existing practices involve individual solutions decided by individual developers based on short-term business economics, whereas a transition to 4DHC involves a holistic view of a regional integrated smart energy system based on long-term, socio-economic benefits and inclusive sustainable growth. This type of system requires significant upfront investment in infrastructure and the economics require a long-term view, both of which are difficult for public authorities and not attractive to the private sector.

HeatNet focuses on multi-stakeholder partnerships to create viable 4DHC roadmaps and effective evidence-based guidance for public authorities.The current practice is that national level policies dominate the energy sector in NWE, which means many 4DHC efficiencies and synergies which can only be identified on examination of local-level energy systems are overlooked. HeatNet is going beyond the existing situation by providing the tools needed for local authorities to implement local heat strategies with confidence, based on the expertise and on-the-ground learnings of the HeatNet partnership from pilot investments. HeatNet aims for 4DHC, the most advanced DHC systems in the EU. This puts NWE DHC systems directly on the pathway to leading the way in this sector and pioneer this best practice in the region. Creating a pathway to 4DHC now future-proofs these heating systems and gives all stakeholders the ability to interact in an advanced smart energy system. Pilots tackle the principle market failure - the cost of the grid, which competitors (eg gas) have already amortised - investing in network pipes.HeatNet, through its diverse mix of innovation stakeholders, from different types of innovation territories in NWE, including Universities (Amsterdam (NL) & Gent (BE)), public bodies (see Pilot Investments), EU networks (Energy Cities(FR)), SME networks (CAP2020(BE)), Energy Agencies (Codema (IE) 7Vents (FR)), and regional agencies (Leiedal (BE) Cerema (FR)), and associate partnership with expertise from the 4DH research centre in Denmark, aims to build upon existing knowledge and find new solutions through collaborative knowledge flows.

The main outputs of HeatNet are to develop innovative tools (HeatNet Model) and transition roadmaps (Long Term Effect) specific to the needs of the heating sector in NWE, and use exemplar pilot projects (Investments) to develop, test and re-evaluate (Evaluation) such HeatNet tools, resulting in visible and measurable results.HeatNet's exemplar pilots have been chosen as they represent diverse governance models, business strategies, investment approaches and are at different stages of development of DHC/4DHC, ranging from no progress (Dublin (IE), Kortijk (BE)) to a system featuring many core components of 4DHC (Heerlen (NL)) and a range of intermediate stages (Boulogne s/Mer (FR), Aberdeen and Plymouth (UK)). This wide status amongst pilots is essential to understand the stages of transition and the variety of routes to 4DHC that may be followed in NWE. It is only through a transnational approach that those regions with little or no progress can learn from the leaders in NWE involved in HeatNet, as the pilots represent the status of DH development in their respective countries. Through the selection of this range of pilots, HeatNet will spread knowledge and know-how between the innovation leader and innovation follower regions within the project, & contribute to overall territorial cohesion in NWE.

Cooperation intensity

Cooperation criteria	
Joint development (mandatory)	Partners collaborated (through face to face workshops, telecon and information exchange) to identify the common issues regarding DHC, project structure, and agreed that transnational collaboration would add value to their individual efforts to identify solutions. Pilots were jointly chosen to enhance these solutions and add to the project's objectives. These pilots have gone through pre-feasibility studies to ensure that at the initiation stage they can proceed and have the ability to incorporate some principles of 4DHC. These pre-feasibility learning parameters, along with the principles of 4DHC and stakeholder expertise will form the first iteration of the HeatNet model. This 'skeleton' model will then be evaluated by using the development phases of the pilots to refine it, in a constant feedback loop until at the end of the project a robust and definitive HeatNet model has been delivered that can be used to inform and guide other 4DHC projects in the NWE and beyond. In conjunction with this transition roadmaps will be developed for the pilot regions (and Normandy).
Joint implementation and evaluation (mandatory)	The project is structured around crosscutting themes in which all partners participate: so investments, evaluation, solutions etc are implemented jointly. The timeline is structured to allow iteration between project deliverables and pilots. Coordination is achieved through the Project Management Group (PMG) in which all partners participate and the WP leaders group. Due to the short timelines of the project it is essential to implement the pilot process immediately, based on the pre feasibility criteria for their selection. From critical path analysis it has been shown that the HeatNet model (and transition roadmaps) must be initiated at the same time, starting with the 'skeleton' HeatNet model as described which will be refined and tested through the evaluation WP to ensure that information from pilot roll out can inform the model and that the evolving refined model can then inform the pilots. Because of the deliberate selection of pilots from partners at different stages of DHC penetration and sophistication there will be a constant 'trickle down' of information that will be filtered and capture through the HeatNet model. The evaluation WP is core to this and has been specifically designed to allow pilots to both feed in and be informed by the evolving HeatNet model. A longterm strategy will be jointly implemented and rolled out with reference to the overall project communications strategy to ensure project continuity. Extensive network connections will be exploited to reach key stakeholders who have the ability to influence the roll out of 4DHC in NWE and beyond. Through the activities in the long term WP (webinars and workshops) and activities in the communication WP (conferences, printed material and online media) the results of the project will be disseminated. Particular emphasis will be placed on guides to transition roadmaps and the HeatNet model to allow stakeholders to put in place the conditions for optimum proliferation of 4DHC technologies and business cases.
Joint staffing (mandatory)	The partner staff will together work as a single team to plan and evaluate activities and create deliverables, led through the PMG and Project Manager, and coordinated thematic transnational WPs, one for each of the work packages (WP) and an overall WP leader group. The consortium makeup has been selected to allow for different areas of expertise to be brought to the project, from academia and municipality governance to technical and policy experts. Any areas that were deficient in overall knowledge have been addressed through associated partner and associated partner expertise such as the inclusion of the ICP and 4DH research centre.
Joint financing (mandatory)	The project has one single budget and all the partners have funding allocated to them from this budget according to the activities they perform in the project. The Lead Partner is responsible for administering and distributing these funds and for reporting on their use. All partners have secured match funding for their project activities. All investments have undergone a pre-feasibility process which has looked at the long term financial viability of the pilot aswell as the access to funding for the capital works phase. This will be further refined through the evaluation WP and HeatNet model WP. Regular updates at bi annual partner meetings will track the project spend and projections, particular emphasis will be placed on investment spending which will be coupled with project delivery ganntt charts and risk analysis matrix to insure results within the project schedule.
Joint communication	The project has one communication strategy, agreed and monitored by the PMG/Proj. Manager, implementation being coordinated by the single communication manager. Audiences include local stakeholders and EC policy makers, Covenant of Mayors network, etc.
Joint decision-making	All key decisions are taken at PMG, all Partners being involved and informed through this mechanism. The Project Management Plan will timetable key decision-making points. Workshops and teleconferences will augment this.
Exchange of knowledge / experience	Knowledge and experience will be exchanged through participation in transnational working groups, seminars and conferences. The Evaluation of cases also provides a mechanism for exchange of knowledge/experience. All Partners participate in this activity
Joint enabling of long-term effects	All partners will jointly develop a HeatNet model for DHC implementation, designed for transferability throughout NWE and for a targeted range of stakeholders. All partners will develop a common longterm strategy, involving networks, mentoring, promotion.

Objective, baseline and expected result / long-term effects

Programme priority specific objective (SO) Programme priority specific objective the project will contribute to.
SO2: To facilitate the implementation of low-carbon, energy and climate protection strategies to reduce GHG emissions in NWE

Project objective Please define precisely the focus of the project and what it aims to achieve (what, for whom, where)
To greatly increase the installed heating capacity of DHC networks and the provision of affordable warmth by accelerating transition to 4DHC in NWE urban areas, and so make significant new contributions to GHG emission reductions through the empowerment of provision stakeholders and the confidence of investment stakeholders. This will be achieved through increasing the favorable conditions for 4DHC (Transition roadmaps) and increased deliverability of projects (HeatNet model)

Project baseline Please describe and quantify the project's baseline (current situation).
District heating provides savings of 11,000t CO2e per annum in partner areas now, compared to supply by conventional systems (eg individual gas boilers). CO2 is saved by integrating renewables and waste heat in DHC and increasing overall efficiencies through centralised heat supply. Energy sources largely renewable in some (Heerlen, Boulogne s/mer), fossil fuel in others (eg Aberdeen). Others have none (eg Dublin).

Please quantify (in value and/or volume) the estimated net change on the territory
• **When the project ends**
15,000t CO2e saved pa by using DHC over conventional heat (individual boilers etc). 200,000 m2 of commercial or public sector floorspace supplied by DHC. 3,000 additional dwellings supplied by DHC as a direct result of the project removing barriers.
• **5 years after the project ends (long-term effects)**
22,000t CO2e saved pa by using DHC over conventional heat (individual boilers etc). 380,000 m2 of commercial or public sector floorspace supplied by DHC. 15,000 dwellings supplied by DHC in partner regions.
• **10 years after the project ends (long-term effects)**
5% average share of DH in NWE to increase to 12% by 2030 due to integration of 4DHC methods and heat sources, saving 33,000t CO2e/yr and supplying 600,000 m2 of commercial/public sector floorspace and 30,000 dwellings in partner regions alone.

Project sub-objectives	
Define max. 3 smaller targets which need to be hit to achieve the general objective	
Title of sub-objective	Please provide a short explanation of the defined sub-objectives and indicate to which work packages they will lead.
1. To transfer and replicate 4DHC solutions in other urban areas	Transition Roadmaps are a key tool to the wider and accelerated delivery of 4DHC in NWE. A Guide, a main project output, will capture lessons learned from the project to enable HeatNet experiences to be transferred and replicated in other urban areas in the territory. The guide will make recommendations for policies, institutional structures (e.g. ESCOs, Partnerships), finance etc, aiming to create a more favourable situation for 4DHC projects to be delivered according to the HeatNet Model.
2. To understand barriers and identify solutions to delivery, and understand the routes of transition to 4DHC	The evaluation process will deliver this sub-objective. It is designed to capture lessons learned from the pilot experiences and other activities and so inform the development of the two main project outputs: the Guide to the HeatNet Model and Guide to Transition Roadmaps. This will be achieved in a continuous synchronised feedback loop from pilots to the HeatNet model and transition roadmaps.
3. To develop practical guidance on how to build and finance 4DHC projects	The Guide to the HeatNet Model is a main project output. It will describe in practical terms how to build and how to finance 4DHC projects. It will include a range of tools and measures to facilitate the delivery of individual 4DHC projects. The guide will be continually informed and altered by findings of the 6 living labs.

Overview table on project outputs as defined in the work plan					
Programme output indicators	Project contribution to Programme output indicator	Main outputs			Relevance
		Nr	Title	Target	
2.01. Number of solutions facilitating the delivery of existing or emerging low carbon, energy or climate protection strategies	1.00	LT.1.1		0.00	
		T3.1.1	Guide to the HeatNet Model	1.00	
		I4.1.1		0.00	
		I5.1.1		0.00	
		I6.1.1		0.00	
2.08. Estimated annual decrease of GHG	15 000.00	T2.1.1	GHG Reduction targets and other recommendations	15 000.00	
		I1.1.1		0.00	
		I2.1.1		0.00	
		I3.1.1		0.00	

Policy context

How does the project fit EU, national and regional strategies and policies?
HeatNet will increase energy efficiency (EE), decrease emissions, and increase use of renewable energy (RE) in the heating sector, in line with EU 20-20-20 targets, EU 2030 Climate and Energy Framework (40-27-27), EU Strategy for Heating and Cooling (SWD(2016) 24 final), Directives 2009/28/CE & 2012/27/UE on RE and EE. Ireland: HeatNet will contribute to the national target 12% RE in heating sector and 33% EE target in the Public Sector by 2020. The project will also contribute to ambitions of Irelands White Paper Transition to a Low Carbon Energy Future & South Dublin Sustainable Energy Action Plan. HeatNet will contribute to UK's national legally binding target for carbon reduction of 80% by 2050 (UK Climate Change Act 2008). It aims to decrease emissions from buildings in line with the UK strategy 'The Future of Heating', Scottish Government's Heat Policy Statement, and Plymouth & Aberdeen Development Plan policies. France: HeatNet will contribute to national target of 23% RE by 2020 and the 10Mt/year of renewable heat required. The laws n°80-531 of 1980, Grenelle 1&2 in 2009-2010, and MAPTAM of 2014 on energy transition and green growth support the development of DH in France. Regional strategies and policies also fit the project, e.g. the Normandy wood energy plan. HeatNet fits with the Netherland's national Heat Vision (2015) which focuses on RE and waste heat to replace gas in heating. Regional policies also fit well with HeatNet such as "Heating is cool" collaboration between 25 parties in Amsterdam Metropolitan Area and the policy of the municipality of Heerlen to reduce 20% CO2 emissions. Belgium has a national target of 13% RE by 2020, Walloon area regional Air Climate 2050 strategy, and Walloon Smart Cities program, all of which HeatNet will contribute to. New DH legislation is due to by passed nationally in 2016 and obligations to connect to gas networks have recently been abolished, and so fits well with the timing of HeatNet.

Which past or current EU and other projects or initiatives does the project make use of? Please describe the experiences/lessons learned the project draws on, and other available knowledge the project capitalies on.
Our strategy builds on previous Interreg projects, including ENO (NWE IIIb, the Minewater Project), GREAT (NWE IVb, business models for smart grid & renewables), MUSIC (NWE IVb, energy transition in urban areas), ARBOR and BIOenNW (NWE IVb, on energy from biomass), ACE (NWE IVb, smart energy cities). Also Stratego (No.IEE/13/650); EcoHeat4EU; RES H/C SPREAD. In many projects, HeatNet-partners were involved. In particular, HeatNet makes use of the learnings of the Heat Roadmap Europe and Stratego projects from which we learned that there is high potential for DH development in NWE regions, and DH is as technologically suitable in NWE as it is in other regions with high implementation such as Denmark, Estonia, Latvia and Lithuania. We have learned the heat demand density thresholds which make DH more or less feasible, and seen that there is a large amount of waste heat available in NWE for use in DH systems. HeatNet aims to take their outputs and experience a step further towards delivery of DH projects. We will connect with the Celsius project (www.celsiuscity.eu) as a source of additional case studies. Many partners have developed strategies for carbon emission reductions and energy efficiency in buildings, making use of EU programmes to gain transnational and cross border expertise: Build with CaRe, MUSIC, Vital Rural Areas, North Sea Sustainable Energy Planning, Low Carbon Regions in the North Sea cluster (NSR IVB) learning the importance of integration with spatial planning; Ace, IV NWE; ECOBEE IVA Channel; BISEPS, V 2Seas; REFURB, progRESsHEAT (Horizon 2020). The main lesson learnt from these projects is that in order to make the energy transition we need to bring stakeholders together and lead them towards a common goal making use of demonstration actions, facilitated by public bodies. This in turn requires political will and a good policy and regulatory framework. Current projects to liaise with include STORM & BISEPS.

Horizontal principles

Please indicate which contribution to horizontal principles the project applies, and justify the choice		
Horizontal principles	Type	Description
Sustainable development (environment)	positive	The project has a strong and central sustainable development focus. Environment: introducing new ways to reduce carbon emissions. Social: aiming to deliver affordable warmth to those on low incomes. Economic: unlocking barriers to growth in this sector. Development of 4DHC networks will allow much greater use of low carbon and renewable energy to heat buildings.
Equal opportunity and non-discrimination	positive	The project only indirectly has an impact on equality and non-descrimination, albeit a positive one. Delivery of affordable heat to social housing will help to reduce living costs for groups in society who are excluded or at risk of exclusion through economic deprivation.
Equality between men and women	neutral	The project is neutral in this respect, considering its objectives and outputs. However, in its delivery all PPs have equal opportunity policies, and the representatives engaged in the partnership are evenly mixed in relation to gender.
Inclusion	positive	The project will have a positive impact on Inclusion, through its objective of providing affordable warmth for groups excluded or at risk of exclusion from society through economic deprivation.

Project risk

Please note that the definition of 3 risks only (not more) is compulsory.

Risk 1		
Title	**Start month**	**End month**
Project fails to engage target groups (and so result is affected)	Sep-2016	Jan-2020
Description		
The project partners on their own cannot achieve the long term result. This requires the engagement of others. We have identified municipalities, housing associations, and energy companies as the main actors able to effect a step change in delivery of district heating networks and affordable heat in NWE. If we fail to engage these actors, beyond the confines of the partnership, we will fail to achieve the result.		
Likelihood that the risk will occur:	**Impact of the risk on delivery:**	
likely	high	
What is foreseen to mitigate the risk?		
HeatNet's long term effect WP employs 3 approaches to mitigate this risk: 1. Place-based strategies are needed to create more favourable conditions for the delivery of District heat networks, and especially 4DHC networks according to the HeatNet Model. Our Guide to making Transition Roadmaps will provide a framework and set of tools to enable Transition Roadmaps to be prepared for other urban areas and so put in place the conditions for successful HeatNet Model (4DHC) projects. 2. Access to finance is a common barrier to delivery of DHC. Often the problem lies in a poor risk profile – project plans containing uncertainties that deter investors (who do not understand the technical details or appreciate the benefits for sustainable development). HeatNet will work with the Investor Confidence Project to develop standards for 4DHC project design. ICP aims to standardise and quality-assure project documentation (technical design, financial modelling etc) to provide greater assurance to investors and so reduce transaction costs and make finance cheaper. This will open up new sources of finance for 4DHC. 3. We plan to hold events and disseminate outputs from the project to these groups, and to establish a longterm programme of Peer to Peer mentoring involving both public and private sectors throughout NWE, run by Energy Cities and others. We will also engage with identified networks of stakeholders during the projects lifetime to disseminate the results through our communications strategy.		

Risk 2		
Title	**Start month**	**End month**
Partnership fails to deliver outputs in a transnational way	Sep-2016	Jan-2020
Description		
Interreg NWE programme aims to deliver transnational solutions as a requirement of the programme. The HeatNet partnership has identified that barriers to delivery of district heating is a transnational problem requiring a transnational solution. It is vital therefore that we do not loose the vision of transnational working. The risk of doing so would be to deliver local solutions to local problems, which cannot be replicated and transferred. This would be another factor which would prevent HeatNet from achieving our stated result.		
Likelihood that the risk will occur:	**Impact of the risk on delivery:**	
not likely	high	
What is foreseen to mitigate the risk?		
We have built a number of mechanisms into our project to ensure that our work remains transnational. Pilots have been chosen specifically that will add knowledge to the HeatNet model and transition guide. At the start of the project we will agree common principles for 4DHC. We already have the basis for this, developed by the Associate Partner 4DH Research Centre, Aalborg. These principles will form the basis for the 'skeleton' HeatNet model all investments, as a common, transnational framework. Within the partnership we have considerable expertise and have created the 4DHC Team, comprising HvA, UoG, Cerema, CAP2020 and Codema, to advise investments as they are developed and implemented in conjunction with the HeatNet model and Roadmaps.. We have also created mentoring relationships between PPs undertaking pilot investments which adds a further transnational dimension to implementation. We have created a whole WP which aims to extract the transnational learning from the pilot investments and other activities, and to turn that into outputs that benefit fully from transnational added value and so are widely transferable and replicable in the long term. All partners will be involved so that we gain the full benefit of the knowledge and experience invested within the partnership.		

Risk 3		
Title	**Start month**	**End month**
Investments not delivered on time (and within project frame of reference)	Sep-2016	Jan-2020
Description		
The pilot investments are central to the project, as living labs where barriers to implementation of the 4DHC approach, the HeatNet Model, can be fully explored, understood and resolved. Hence it is essential that the pilots deliver their planned outputs within the life of the project. Implementation of investments carry many risks, such as: Partnership risks: Most of the investments are to be delivered by organisations working together. Partnerships may fail, through poor communication, conflicting objectives, etc. Regulatory risks: Most investments require one or more development permits in order to proceed. Construction risks: unforeseen problems can arise during construction, for example regarding underground obstructions to pipeline routes, technical problems, poor performance of contractors etc. All risks can increase costs and slow the pace of delivery.		
Likelihood that the risk will occur:	**Impact of the risk on delivery:**	
likely	high	
What is foreseen to mitigate the risk?		
We expect to encounter problems with the investments – that is normal given their nature – but we see problems as valuable learning experiences as well as management challenges to be resolved. The underlying theme of HeatNet is to understand barriers to implementation so that they can be removed. The Evaluation process, having an cyclical approach, is designed to analyse problems as they arise in one place and to feed learning back to all partners so that they can be avoided elsewhere. Nevertheless, we recognise that these risks must be avoided or resolved in order to deliver the project successfully. To help to do this we have created a common structure for investment delivery (Feasibility; Design; Implememtation) allowing risks to be considered and mitigated in a logical order. The investment PPs will be supported by expertise from across the partnership (the 4DHC Team and mentor PPs), which will help to both spot problems in advance so that they can be avoided and to help find solutions. The Project Management Group, work package leader group and Lead Partner will monitor investments closely, requiring regular progress reporting from pilot investment partners to ensure delivery within the 40 month activity period of the project (remaining months are for project closure).		

Target Groups

Target group	Description	Target value
local public authority	NWE Municipalities in highly urbanised areas where there is potential for development of district heating	0.00
regional public authority	All regional authorities in NWE with strategic planning functions concerning urban development and energy planning.	0.00
national public authority	All national authorities in NWE with strategic planning functions concerning urban development and energy planning.	0.00
sectoral agency	Social housing providers	0.00
infrastructure and (public) service provider	Those concerned with delivery of the built environment (housing, commercial office and industrial space, enabling infrastructure)	0.00
enterprise, excluding SME	Energy companies operating in NWE	0.00
SME	Those active in the heating, renewable and low carbon energy, and building energy efficiency sectors	0.00
General public	Heat consumers, especially residents of blocks of apartments	0.00
education/training centre and school	training centres for engineers, planners, architects	0.00
business support organisation	Networks and clusters of SMEs active in the heating, renewable and low carbon energy, and building energy efficiency sectors	0.00
higher education and research		0.00

WP nr	Title	Start month	End month	Budget
WP LT	**Long Term**	Sep-2016	Jan-2020	1 134 100.78

Partners involvement

Partner responsible	City of Dublin Energy Management Agency Ltd
Partners involved	City of Dublin Energy Management Agency Ltd, Codema. Role: LP
	Plymouth City Council, PCC. Role: PP
	CAP 2020, CAP 2020. Role: PP
	City of Kortrijk, Kortrijk. Role: PP
	Intermunicipal Association Leiedal , Leiedal. Role: PP
	Energy Cities, ECN. Role: PP
	City of Boulogne-sur-Mer, BsM. Role: PP
	University of Gent, UoG. Role: PP
	Amsterdam University of Applied Sciences, HvA. Role: PP
	7 Vents, L7V. Role: PP
	Aberdeen City Council, ACC. Role: PP
	Mijnwater B.V., Mijnwater . Role: PP
	South Dublin County Council, SDCC. Role: PP
	Centre for studies and expertise on Risks, Environment, Mobility, and Urban and Country Planning, CER. Role: PP

Implementation summary

Summary and objective of the work package including an explanation of how partners will be involved (who will do what). Note: Please elaborate if this work package will contribute to a project sub-objective and if so to which.
Objective: To transfer and replicate 4DHC solutions in other urban areas through a transition guide beyond the term of the project. Lead: Codema. Transition Roadmaps will analyse heat demand and potential heat sources spatially, at city-scale, identifying opportunities for 4DHC nodes - places where networks can be developed through individual projects using the HeatNet Model. Viability will be tested from a 4DHC perspective and considering social benefit, so identifying opportunities not seen previously. Actions will be identified to turn these opportunities into projects to use the model and so initiate and extend 4DHC at city-scale, including: spatial policies, partnerships, financial instruments, pricing strategies, smart grid integration, renewable energy sources, and setting city-wide targets for CO2 emissions, number of dwellings, and area of floor space served by DHC. Each pilot will lead the development of their Transition Roadmap, tailored to local conditions, taking a 15-20yr view. Roles:- Codema, Cerema, HvA: support for heat demand & waste heat mapping, city-scale, incorporating realistic scenarios to accommodate uncertainty and future technological & strategic policy development. Mijnwater BV & UoG: technical systems advice; Lieidal & 7Vents: support Roadmap action planning and policy/partnership measures; CAP2020 & Cerema: business model advice, pricing. The rollout strategy comprises three ACTIVE elements plus guides & tools, so ensuring durability. 1. The Procurement Guide for 4DHC project expertise is a dynamic mechanism requiring active use. 2. ICP 4DHC Protocols will be promoted in an active investment market. 3. HeatNet guides & business cases will be promoted through a range of events being part of the Energy Cities and CAP2020 networks, including seminars & training. NWE Cities with high potential for DHC (identified from Heat Roadmap Europe, Celsius project, etc) will be engaged. Aalborg 4DH Centre will provide strategic advice and critique.

Target groups

Target groups	• local public authority • regional public authority • national public authority • sectoral agency • infrastructure and (public) service provider • enterprise, excluding SME • SME • General public

How will you involve target groups (and other stakeholders) in the development of the work package main outputs?
Public authorities have the powers to facilitate infrastructure delivery and can coordinate stakeholders. They include municipalities, housing providers and other public bodies having a large building stock. They will be involved in the pilot investments enabling an understanding of their needs and motivations. Energy companies include not only those operating DH networks, but also traditional energy companies which may be interested in new business models for energy supply. They have the ability to secure investment and to make the operational changes needed for Transition. Examples of these are involved directly in the project at pilot level. Consumers can demand change, if they are empowered through information. Business Cases targeting each group will promote benefits of 4DHC via networks, web, conferences, peer to peer training/mentoring/twinning. Transition Roadmap Guide will bring together frameworks, tools and measures to support roll out of HeatNet Model through project

Activities

Please describe activities and deliverables within the work package				
Activity nr	Title		Start month	End month
Activity 1	Transition Roadmaps		Sep-2016	Jan-2020
Pilots regions will develop their Transition Roadmap, facilitated through the evaluation feedback and through transnational support from expert partners. Experiences will be captured in a Guide to enable replication. Roadmaps will reflect local contexts (energy sources, development opportunities, stakeholders, current DHC status, policy regime, finance) and identify key opportunities for 4DHC development, for grid integration and capturing of waste heat, propose governance & financing mechanisms				
	Deliverable nr	Title	Target value	End month
	Deliverable 1.1	Policy, legal and regulatory review. Lead: Energy Cities, with Aberdeen, BsM, Leiedal, Kortrijk, S. Dublin, HvA, CAP2020	1.00	Nov-2017
	Report, reviewing policy measures (all scales), good practices, barriers and solutions. To include: spatial & low carbon policy; impact of national measures (Energy Performance of Buildings Directive); Energy Markets. Recommendations and actions.			
	Deliverable 1.2	Spatial policy for 4DHC. Lead: HvA, with Plymouth, BsM, Kortrijk, S. Dublin, Cerema, 7Vents, Leiedal	1.00	Jul-2019
	Based on Regulatory review and pilot experiences, this will be toolkit of spatial policy approaches to securing DHC through new development. HvA, Leiedal, Kortrijk, Plymouth, Aberdeen, Mijnwater BV, Boulogne s/Mer, S.Dublin.			
	Deliverable 1.3	Set of 7 transition Roadmaps, for Dublin, Aberdeen, Plymouth, Boulogne sur Mer, Normandy, Kortrijk, Heerlen. Lead: Leiedal	7.00	Mar-2019
	6 Pilot areas + Normandy will produce individual transition Roadmaps, being action plans to support further development of DHC networks (using HeatNet Model) and transition to 4DHC. Include: policy recommendations; pipeline of projects.			
	Deliverable 1.4	Main output: 4DHC Transition Guide. Lead: Codema, with 7Vents, Leiedal, HvA, Mijnwater, Plymouth, Cerema, UoG	1.00	Dec-2019
	The Guide will detail how to make Transition Roadmaps, having sections on the key elements of 4DHC and practical guidance on how to implement them, and to integrate them in a smart energy grid. Recommended policy, procurement & other transition measures.			
Activity 2	Business cases for 4DHC		Apr-2017	Oct-2018
Compelling business cases will be made to three target groups; the energy sector; public authorities; and consumers. All are key actors to long term dissemination. Their inexperience of DHC is a significant barrier. The business cases aim to secure greater commitment to implementing DHC, by presenting benefits clearly, and defining the role each has to play in implementing Transition Roadmaps and how this can be facilitated. They will be presented through targeted events, seminars, e-news etc				
	Deliverable nr	Title	Target value	End month
	Deliverable 2.1	Business Case to Energy sector. Lead: CAP2020, with Aberdeen, Codema, UoG, Energy Cities	1.00	Oct-2018
	Setting out the potentials and benefits of 4DHC for Energy Companies from a commercial perspective. Scope out alternative business models and governance arrangements (Public/Private partnerships), and finance arrangements. Importance of affordable warmth			
	Deliverable 2.2	Business Case to public sector. Lead: Codema, with 7Vents, Plymouth, BsM, Mijnwater, S.Dublin, Kortrijk, CAP2020, Energy Cities	1.00	Oct-2018
	Setting out the potential contribution of DH (with emphasis on 4DHC) for meeting carbon emission targets and addressing fuel poverty/affordable warmth. Outlining alternative business models and sources of finance. Signposting to resources.			
	Deliverable 2.3	Case to energy consumers. Lead: 7Vents, with BsM, Aberdeen, Leiedal, S. Dublin	1.00	Oct-2018
	Setting out the benefits of 4DHC to consumers (Ease of use, environmental; ability to generate and sell energy as prosumers). Introducing community based collaborative governance and finance models. Signposting to resources.			
Activity 3	Promoting 4DHC to key stakeholders to ensure long term dissemination beyond the life of the project.		Sep-2016	Jan-2020
Transition to 4DHC requires action from both the public and private sector. A roll out strategy aims to galvanise key actors, introducing HeatNet Model and Transition Roadmap Guide. Events and training materials will develop institutional capacity, facilitate knowledge transfer and collaboration. The Transition Roadmap Guide will include policy recommendations (from Regulatory Review). Development of local/regional Roadmaps is a key mechanism for improving policy.				
	Deliverable nr	Title	Target value	End month
	Deliverable 3.1	Roll out strategy. Lead: Codema, with all PPs	1.00	Nov-2018

	An action plan for key actors within NWE aiming to maximise the replication of the HeatNet model and Transition Roadmaps and influence National policy. It will be delivered with reference to the communications strategy.			
	Deliverable 3.2	SME capacity building. Lead: CAP2020, with Energy Cities	6.00	Jan-2020
	Workshops & webinars, in each MS, providing information (Intro to transition guide & HeatNet tool) and opportunities to share experience and knowledge. Enable SMEs to explore and understand opportunities to supply the 4DHC sector, so supporting transition			
	Deliverable 3.3	Capacity building workshops for public authorities. Lead: Energy Cities, with CAP2020, Codema, Cerema, HvA, UoG	9.00	Jan-2020
	Peer to Peer networking events/webinars – sharing knowledge and expertise. Using Non-tech Guide to 4DHC and promoting HeatNet Model & Transition Roadmap Guide. Study tours of pilot sites. Training trainers workshop.			

WP nr	Title	Start month	End month	Budget
WP C	**Communication**	Sep-2016	Jan-2020	493 993.29

Partners involvement

Partner responsible	Energy Cities
Partners involved	City of Dublin Energy Management Agency Ltd, Codema. Role: LP
	Plymouth City Council, PCC. Role: PP
	CAP 2020, CAP 2020. Role: PP
	City of Kortrijk, Kortrijk. Role: PP
	Intermunicipal Association Leiedal , Leiedal. Role: PP
	Energy Cities, ECN. Role: PP
	City of Boulogne-sur-Mer, BsM. Role: PP
	University of Gent, UoG. Role: PP
	Amsterdam University of Applied Sciences, HvA. Role: PP
	7 Vents, L7V. Role: PP
	Aberdeen City Council, ACC. Role: PP
	Mijnwater B.V., Mijnwater . Role: PP
	South Dublin County Council, SDCC. Role: PP
	Centre for studies and expertise on Risks, Environment, Mobility, and Urban and Country Planning, CER. Role: PP

Implementation summary

Summary description and objective of the work package, including an explanation of how partners will be involved (who will do what)
Objectives: This WP aims to increase the impact of the project through the wide dissemination of the project objectives, activities, outputs and results to the 3 different target groups (energy supply sector, public sector and energy consumers) in NWE and Europe. This WP is in essence inter-connected with all other WPs. Summary of activities: Large parts of dissemination to the target groups already take place in WP long term effect in particular through the promotion activities on 4DHC. HeatNet will also communicate the results further and beyond the core target groups and Interreg NWE by establishing and disseminating several tools and further events: 1: Joint development and monitoring of the communication strategy of the project, at European and national level (targeting EU and national authorities, Public Authorities (PAs) and DHC stakeholder organisations) and at local level (targeting the supply and consumer sector). Complying with the Interreg NWE programme communication strategy 2: Preparation of tailor-made digital promotional activities such as webinars for NWE and PAs and dissemination to the main target groups via local and the Interreg NWE websites 3: Dissemination of outputs and results to NWE and PAs via publications 4: Presentations at national and European level events and organisation of a final conference. Partners' role: Energy Cities: coordination of communication activities, specific dissemination to PAs at NWE and European level, organisation of the final conference in Brussels Pilot partners: preparation of a local communication strategy to contribute to the project's communication strategy, development of communication materials for the demand and supply sides All partners: dissemination of the project outputs and results via its communication channels (including social media) at national/European level via presentations at workshops and conferences

Objectives

Project sub-objectives	Types of communication objectives - What can communications do to reach a project sub-objective?	Communication objectives
To transfer and replicate 4DHC solutions in other urban areas	Raise awareness	Make policy makers, public authorities, energy companies, and energy consumers aware of the benefits of 4DHC and the strategic actions that can be taken to enable 4DHC projects using Guides, communications and events
	Influence attitude	Encourage public authorities and energy companies to implement 4DHC projects, making use of HeatNet tools (Transition Roadmap Guide and HeatNet Model Guide)
To understand barriers and identify solutions to delivery, and understand the routes of transition to 4DHC		
To develop practical guidance on how to build and finance 4DHC projects	Raise awareness	Make public authorities, energy companies, and energy consumers aware of the benefits of 4DHC and the tools available to help build and finance 4DHC projects through guides, communications and events
	Influence attitude	Encourage public authorities and energy companies to implement 4DHC projects, making use of HeatNet tools in the HeatNet Model Guide

Activities

Please describe activities (max. 4) and deliverables within the work package				
Activity nr	Title		Start month	End month
Activity 1	Start-up activities including communication strategy		Sep-2016	Jan-2017
The first activity is to develop a communication strategy at European, national and local level that will be monitored throughout the duration of the project. To ensure that the communication strategy is shared amongst all the partners and that the Interreg NWE brand is respected, workshops will be set up between the project communication manager and all the different partners.				
	Deliverable nr	Title	Target value	End month
	Deliverable 1.1	Communication strategy	1.00	Jan-2017
	A communication strategy, including European, national and local strategies, will be delivered within the first 4 months of the project including the definition of aims and methods that will be used to communicate to target groups. References long term WP			
	Deliverable 1.2	Dissemination feedback loop	1.00	Jan-2017
	A “Bulletin Board” (on google calendar) showing all communication deliverables will be created to allow WP leader to monitor the progress of the communication plan (articles, publications, etc.) and to give feedback to the project partners.			
	Deliverable 1.3	Communication webinar with communication expert and all project partners	1.00	Jan-2017
	A webinar will be organised allowing the communication strategy to be shared and final adjustments with all project partners.			
Activity 2	Digital activities		Sep-2016	Jan-2020
Digital activities include communication and dissemination of project activities, outputs and results to the target groups (supply and consumer sector, public authorities, DHC organisations and system providers) not only from NWE but whole Europe.				
	Deliverable nr	Title	Target value	End month
	Deliverable 2.1	Maintenance and content development of all webpages	1.00	Jan-2020
	Regular update of general webpages and creation of social network accounts promoting HeatNet project work progress, on partners’ websites and on the Interreg NWE website. It will be done on average twice a year.			
	Deliverable 2.2	Webinars to promote HeatNet	9.00	Jan-2020
	9 webinars (20 participants expected on average) to promote HeatNet from 2018 onwards, dealing with 3 specific topics and organised in the 3 national languages (en, fr and nl). Webinars will involve one or two pilots focussed on national audiences.			
Activity 3	Publication(s)		Sep-2016	Jan-2020
Publications aim to disseminate the project outputs and results to NWE and European Public authorities, energy companies and consumers and to ensure the long term success of the project outputs				
	Deliverable nr	Title	Target value	End month
	Deliverable 3.1	HeatNet results and publication flyer	1.00	Oct-2019
	The flyer (2 000 copies) will summarise the project outcomes. Easily distributed at events it will direct readers to the specific HeatNet websites where all HeatNet findings can be found.			
	Deliverable 3.2	Publications in magazines	10.00	Jan-2020
	Over the project duration each project partner will be responsible for publishing at least one article in a specialised magazine or academic journal in the different NWE countries.			
Activity 4	Public Event(s)		Sep-2016	Jan-2020
Throughout the duration of the project all partners will share the project’s progress and outputs with the different target groups in the frame of national and European workshops and conferences. Importantly, a final conference will be organised at the end of the project in a suitable location.				
	Deliverable nr	Title	Target value	End month
	Deliverable 4.1	Presentations during existing workshops and conferences	10.00	Jun-2019
	HeatNet will be presented by all partners during European conferences/workshops (such as Open Days, EUSEW, CogenEurope or EuroHeat and Power events, national events, etc.). Each partner should at least give one presentation.			
	Deliverable 4.2	Participants and conclusions of the final HeatNet conference in Brussels	1.00	Jan-2020
	A final conference will be organised in a suitable location to disseminate results, at the same time as a major European event. Stakeholders from all target groups will be involved in the European HeatNet roll-out campaign.			

Work packages

WP nr	Title	Start month	End month	Budget
WP M	**Project management**	Sep-2016	Jul-2020	1 108 521.36

Partners involvement

Partner responsible	City of Dublin Energy Management Agency Ltd
Partners involved	City of Dublin Energy Management Agency Ltd, Codema. Role: LP
	Plymouth City Council, PCC. Role: PP
	CAP 2020, CAP 2020. Role: PP
	City of Kortrijk, Kortrijk. Role: PP
	Intermunicipal Association Leiedal , Leiedal. Role: PP
	Energy Cities, ECN. Role: PP
	City of Boulogne-sur-Mer, BsM. Role: PP
	University of Gent, UoG. Role: PP
	Amsterdam University of Applied Sciences, HvA. Role: PP
	7 Vents, L7V. Role: PP
	Aberdeen City Council, ACC. Role: PP
	Mijnwater B.V., Mijnwater . Role: PP
	South Dublin County Council, SDCC. Role: PP
	Centre for studies and expertise on Risks, Environment, Mobility, and Urban and Country Planning, CER. Role: PP

Implementation summary

Describe how the management on the strategic and operational level will be carried out in the project, specifically:

- structure, responsibilities and procedures for the day-to-day management and co-ordination
- communication within the partnership
- reporting and evaluation procedures
- risk and quality management
- indicate whether the management is foreseen to be externalised

Codema is LP and will apply its extensive experience in managing European projects to ensure delivery of a high quality project on time, to scope and within budget. Project Management will not be externalised. The PMG comprises all partners and is led by the LP (Project Manager, Project Co-ordinator, Finance Manager and Communications Manager). The LP will be responsible for the day-to-day running and delivery of the project. A Steering Group (SG), made up of members of the LP and WP co-ordinators, will guide the direction of the project and prepare for Project Management Group (PMG) and WP leader meetings, helping to manage this large partnership. A dedicated Communications Manager will be responsible for internal communications and will support the Communication WP leader. The LP will promote a strong working relationship with partners and regular communications via phone, on-line conferencing and at partner meetings. The LP will be responsible for the communication with the Joint Secretariat (JS) and will be the formal point of contact for the project. The Project and Finance Managers will ensure timely reporting on project progress and financial management and will closely monitor the project's activities and budget-spend. Compliance with national and EU regulations will be ensured with the nomination of an independent first level controller (FLC). A Project Management (PM) plan will provide overall guidance to the PMG regarding their responsibilities, internal communication and procedures for financial requirements, quality control and risk management. The partnership agreement will be finalised and signed no later than 2 months after project approval, ensuring that all partners (PPs) are signed up to their specific responsibilities. The SG will be responsible for monitoring risks (existing and new ones) and quality control (ensuring publicity requirements & high standards for project outputs are met). The SG can meet at least twice a year.

Activities

Please describe activities (max. 4) and deliverables within the work package				
Activity nr	Title		Start month	End month
Activity 1	Day to day Project management		Sep-2016	Jul-2020
A dedicated in-house project management (LP) team will be responsible for managing the project on a day-to-day basis. The LP team will meet weekly to discuss and monitor progress. A project management (PM) plan will support joint implementation of the project's activities. The PM plan will establish roles of PM team, SG and PPs and provide a schedule for all partner & SG meetings, conference calls and deadlines for periodic reporting.				
	Deliverable nr	Title	Target value	End month
	Deliverable 1.1	Project Management Plan and meetings	6.00	Jul-2020
	The PM plan will assign responsibilities, deadlines, procedures for internal communication, monitoring, financial & quality control. The plan will support transnational co-operation and complement the Application Form (AF) and partnership agreement.			
	Deliverable 1.2	Internal communication	1.00	Jul-2020
	A strategy, promoting communication among partners and integrated into the Communication Plan. Regular communication via email, telephone and on-line conferencing. Cloud file-sharing system to track progress & and provide project communication templates.			
	Deliverable 1.3	Activity reporting	6.00	Jul-2020
	The LP will ensure the timely delivery of partner progress reports and collaborative project reports via the eMS twice a year. Informal reporting with JS will also occur with updates on progress, events, press releases and change of risk status.			
Activity 2	Financial management		Sep-2016	Jul-2020
The LP will ensure the timely preparation of certified financial claims and submission via the eMS twice a year. All PPs will nominate a qualified independent FLC who will certify partner compliance with procurement and expenditure rules.				
	Deliverable nr	Title	Target value	End month
	Deliverable 2.1	Financial reports	6.00	Jul-2020
	The LP will deliver to the Managing Authority twice yearly financial payment claim reports, audited in accordance with programme rules. Payments will be disbursed to partners in a timely fashion.			
Activity 3	Risk and quality management		Sep-2016	Jul-2020
A Steering Group, comprising of the PM team and WP coordinators, will monitor project activities, provide oversight and strategic guidance. The SC will meet virtually twice a year and communicate regularly though phone, email and on-line meetings. Emergency meetings will be held if delays and new risks are foreseen. Where corrective action is required, the JS will be informed immediately and a Request for Change initiated if necessary.				
	Deliverable nr	Title	Target value	End month
	Deliverable 3.1	Quality control	1.00	Jul-2020
	The PM plan will outline control procedures (branding, templates, coding, legal requirements etc.) for project documentation. All PPs will have responsibility for quality control for their own activities which will be overseen by the LP and the SG.			
	Deliverable 3.2	Risk Management Plan (RMP): development and implementation	1.00	Jul-2020
	The SG is responsible for Risk Management, keeping track of identified risks through the RMP (month 3). Corrective action will be agreed by the project and discussed with the JS. Risks are analysed in terms of their impact and likelihood			

WP Nr	Type	Title	Start month	End month	Budget
WP. T2	implementation	**Evaluation**	Sep-2016	Oct-2019	532 730.63

Partners involvement

Partner responsible	Amsterdam University of Applied Sciences
Partners involved	City of Dublin Energy Management Agency Ltd, Codema. Role: LP
	Plymouth City Council, PCC. Role: PP
	CAP 2020, CAP 2020. Role: PP
	City of Kortrijk, Kortrijk. Role: PP
	Intermunicipal Association Leiedal , Leiedal. Role: PP
	Energy Cities, ECN. Role: PP
	City of Boulogne-sur-Mer, BsM. Role: PP
	University of Gent, UoG. Role: PP
	Amsterdam University of Applied Sciences, HvA. Role: PP
	7 Vents, L7V. Role: PP
	Aberdeen City Council, ACC. Role: PP
	Mijnwater B.V., Mijnwater . Role: PP
	South Dublin County Council, SDCC. Role: PP
	Centre for studies and expertise on Risks, Environment, Mobility, and Urban and Country Planning, CER. Role: PP

Implementation summary

Summary and objective of the work package including an explanation of how partners will be involved (who will do what).
Note: Please elaborate if this work package will contribute to a project sub-objective and if so to which.

To understand barriers and identify solutions to delivery, and understand the routes of transition to 4DHC. Lead: HvA.
Sub-objective 2
Action Research is an evaluation process that provides positive feedback during the test phase of pilots, allowing transnational learning to inform the evolution of pilots as they progress. The pilots learning process will be facilitated by the development of the HeatNet model through the evaluation process.Pilots are at different stages of transition to 4DHC. This will provide valuable initial and ongoing insights into the transition journey and the critical barriers. Thus at each stage all pilots are evaluated and recommendations are made to individual pilots and the HeatNet model. A first 'skeleton' of the HeatNet model will be built in the first year based on both pre- feasibility findings that led to pilot selection and on 4DHC best practice criteria. Key performance indicators (KPIs) will be identified to provide a common framework for analysis. Indeed the transnational partnership has already identified their broad categories: Current Situation,Environment & technical,Financial & business,legal & regulatory,Governance & process. The evaluation process will be led by HvA, with Cerema & UoG, being knowledge partners. However, all partners will be engaged for data gathering and connecting to the stakeholders of the pilots. Evaluation workshops will take place at the half yearly partner meeting, and will be supported by case study descriptions of pilots, stakeholder interviews and site visits.We identified the following global evaluation steps in the Plan-Do-Check-Act cycle we will follow:

Plan: Evaluation plan containing pilots KPIs and case study set up.
Do: Evaluate KPIs, implement first recommendations and provide input for WP HeatNet model.
Check: Evaluate results of implementation.
Act: Recommendations for WP HeatNet Model and WP Transition Roadmaps

Main outputs

Please describe the project main outputs that will be delivered based on the activities carried out in this investment. For each project main output a programme output indicator should be chosen. Please note that they need to have the same measurement unit.				
Project main output	Describe the project main output and its contribution to project sub-objectives	Quantify the contribution	Delivery month	Programme output indicator to which the project main output will contribute. Please check the Programme Manual for the obligatory output indicators.
GHG Reduction targets and other recommendations	The evaluation report will capture lessons learned from the pilot investments & other activities in the project, making recommendations with regard to the HeatNet Model and Transition Roadmaps, and proposing targets for GHG reduction based on expected replication in NWE. The Report will be augmented by case studies, evaluated within the transnational KPI framework. The Report will describe the cyclical evaluation process, and its impact on pilot investments.	15 000.00	Jan-2020	2.08. Estimated annual decrease of GHG

Target groups

Who will use the main outputs?	• local public authority • sectoral agency • infrastructure and (public) service provider • education/training centre and school • enterprise, excluding SME • SME • business support organisation
How will target groups be involved in the development of the project main outputs?	
The evaluation is primarily an internal process and the principal target groups are the project partners themselves and local stakeholders. However the main lessons learned are of value for others and will be distributed via other WPs. Each partner will undertake a stakeholder analysis to enable key actors to be selected for interview, to inform case study production and general evaluation against the KPIs. The iterative process will result in periodic feedback to all pilot project stakeholders and their engagement in revision of pilot implementation.Some case studies will be selected outside the partnership where these offer valuable lessons, but otherwise outreach in relation to the learning from the evaluation will be driven through other WPs. The summary and leaflet of the evaluation report with lessons learned will be of value for others outside the project, such as future 4DHC cities, regions, developers. They will be involved via the communication workpackage.	

Activities

Please describe activities and deliverables within the work package				
Activity nr	Title		Start month	End month
Activity 1	'Plan' Evaluation Step		Sep-2016	Apr-2017
KPIs will provide the framework for evaluation, giving it a rigorous, transnational and replicable structure. KPIs will be based on literature study. All PPs will be involved by data gathering and reviewing so that the full range of expertise and experience in the partnership is reflected in their selection. A work plan for the evaluation process will be elaborated. Input from partners will be given in the first partner meeting and results will be presented at the second meeting.				
	Deliverable nr	Title	Target value	End month
	Deliverable 1.1	Evaluation Plan	1.00	Apr-2017
	Define KPIs and evaluation work plan. Plan and initiate evaluation workshops, interviews, case study analysis and reporting. Measure and record KPIs for baseline.			
Activity 2	'DO' Evaluation Step		Apr-2017	Jan-2018
Do: Evaluate KPIs, implement first recommendations and provide first input for WP HeatNet model. We will have 2 rounds (start of project and towards the end) of interviewing 5 stakeholders at each pilot site. On the basis of the first round we will analyse the KPIs status at that moment and make draft recommendations for the Heat-Model. Pilots are advised to implement these recommendations. The input from the pilots will also be gathered also in evaluation workshops at the partner meetings of year 2.				
	Deliverable nr	Title	Target value	End month
	Deliverable 2.1	Recommendations: HeatNet Model	1.00	Jan-2018
	Evaluation activities will be undertaken to develop recommendations and contextual analysis which will feed into WP HeatNet Model, as a report and recommendations.This will take the first draft version of the HeatNet model and improve it based upon actual experience of using the draft version in the pilots.			
Activity 3	'Check' Evaluation Step		Jan-2018	May-2018
Check: Undertake evaluation workshops, interviews, case study analysis and reporting. Measure and record KPIs. Evaluate results of the implementation of the recommendations in the pilots. In the second round of interviews with the pilots stakeholders we will check progress on KPIs and implementation and result of the recommendations done in the previous phase. Where needed an update of the HeatNet model recommendations will be made. This final evaluation round will also provide the input for the recommendations for the transition roadmaps. In the evaluations workshops and the project meetings of year 3 input will be gathered and reviewed by the partners.				
	Deliverable nr	Title	Target value	End month
	Deliverable 3.1	Case study report cards	10.00	May-2018
	Case studies (pilots and other cases) will be analysed against KPIs and report cards produced for wide dissemination			
	Deliverable 3.2	Recommendations: HeatNet Model and Transition Roadmaps	1.00	May-2018
	Evaluation activities will be undertaken to develop recommendations and contextual information which will feed into WP Longterm effects, as a report and recommendations.			
	Deliverable 3.3	Barriers to implementation of 4DHC. Lead: HvA, with All PPs	1.00	May-2018
	Report detailing barriers encountered by HeatNet partners and other cases in implementing DHC and 4DHC. A foundation for final Recommendations to HeatNet Model, Transition Roadmaps, and Roll out strategy			
Activity 4	'Act' Evaluation Step. GHG Reduction targets		Sep-2018	Oct-2019
The evaluation report will provide background and analysis of the KPIs, case studies and all lessons learned as were fed into the pilot's via the Heat-Model and the Transition Roadmaps recommendations. In the final project meeting the lessons learned will be presented.				
	Deliverable nr	Title	Target value	End month
	Deliverable 4.1	Output: GHG reduction targets through 4DHC replication in NWE	1.00	Oct-2019
	Overall reporting on pilots and transition path followed, in 2 outputs: - Full report - Lessons learned & recommendation booklet			

WP Nr	Type	Title	Start month	End month	Budget
WP. T3	implementation	**HeatNet Model**	Sep-2016	Dec-2019	740 942.96

Partners involvement

Partner responsible	Centre for studies and expertise on Risks, Environment, Mobility, and Urban and Country Planning
Partners involved	City of Dublin Energy Management Agency Ltd, Codema. Role: LP
	Plymouth City Council, PCC. Role: PP
	CAP 2020, CAP 2020. Role: PP
	City of Kortrijk, Kortrijk. Role: PP
	Intermunicipal Association Leiedal , Leiedal. Role: PP
	Energy Cities, ECN. Role: PP
	City of Boulogne-sur-Mer, BsM. Role: PP
	University of Gent, UoG. Role: PP
	Amsterdam University of Applied Sciences, HvA. Role: PP
	7 Vents, L7V. Role: PP
	Aberdeen City Council, ACC. Role: PP
	Mijnwater B.V., Mijnwater . Role: PP
	South Dublin County Council, SDCC. Role: PP
	Centre for studies and expertise on Risks, Environment, Mobility, and Urban and Country Planning, CER. Role: PP

Implementation summary

Summary and objective of the work package including an explanation of how partners will be involved (who will do what). Note: Please elaborate if this work package will contribute to a project sub-objective and if so to which.
Sub-objective 3: to develop transferable guidance on how to build and finance 4DHC projects. Lead: Cerema The HeatNet model is a tool intially built around 4DHC technology and principles and existing knowledge from project partners and pilots. It's application to different stages of transition to 4DHC will be tested in the 6 pilots, jointly evaluated and refined, so guidance is transferable to cities whatever their current 4DHC status. Each pilot represents a different stage on transition to 4DHC, and together they reflect a broad range of routes to 4DHC. It is essential to recognise this diversity as there is no one size fits all approach and so each pilot offers unique learning experiences, captured through the Evaluation WP. The HeatNet Model will focus on 'How do I build 4DHC?' and 'How do I finance 4DHC?' and will produce: 1. Non-technical guide to 4DHC will inform decision makers regarding principles & characteristics of 4DHC, explaining its benefits and how it differs from traditional DHC. Lead: Cerema, with Codema, UoG, HvA 2. Diagnostic and planning tools: 4DHC heat mapping, CO2 emission calculator, tested on selected pilots. Cerema, CAP2020, Codema, HvA, UoG. 3. A Procurement Guide to help pre-assess experts, ensuring projects are well designed. Energy Cities, CAP2020, Leiedal. 4. Governance and partnership options, including for conventional Energy Sector, that will provide co-finance, including development finance for planning stages. Developed from pilot experiences. 7Vents leads, with Aberdeen, Mijnwater BV, CAP2020, S. Dublin. 5. Pricing model, tested in pilot regions and adapted for transnational use. Cerema. 6. Protocols for investment standards (linked with Investor Confidence Project), which bring projects to investment ready status. Plymouth will lead engagement with ICP, shaping non-tech guide, CO2 calculator, pricing model and procurement guide into a 4DHC protocol. Cerema and Codema fully involved.

Main outputs

Please describe the project main outputs that will be delivered based on the activities carried out in this investment.
For each project main output a programme output indicator should be chosen.
Please note that they need to have the same measurement unit.

Project main output	Describe the project main output and its contribution to project sub-objectives	Quantify the contribution	Delivery month	Programme output indicator to which the project main output will contribute. Please check the Programme Manual for the obligatory output indicators.
Guide to the HeatNet Model	The HeatNet Model is a business model for 4DHC projects. This guide will include descriptions of a range of tools to help implement the model, and top tips for their use. Case studies based on pilot investments will illustrate their application. The tools are focussed on the most difficult challenges of building and financing 4DHC projects.	1.00	Dec-2019	2.01. Number of solutions facilitating the delivery of existing or emerging low carbon, energy or climate protection strategies

Target groups

Who will use the main outputs?	• local public authority • regional public authority • national public authority • sectoral agency • infrastructure and (public) service provider • education/training centre and school • enterprise, excluding SME • SME • business support organisation
How will target groups be involved in the development of the project main outputs?	
Target groups fall into distinct groups: • Scheme developers • Expert service providers (technical design, financial appraisal, legal) • Financing sector These groups will be involved directly in developing WP outputs, through engagement in the pilot and other activities and the Evaluation process, which includes stakeholder interviews. Beyond those involved in pilots: expert service providers will be involved in the development of the Procurement Guide, which will involve some industry level discussion. The Financing sector will be involved through engagement with ICP, an expanding EU-wide network. Scheme developers will be a central focus of the rollout strategy and business cases in the Longterm WP, which will use material developed in this WP and derived directly and through the evaluation process. The Long term and Communications WPs contain a range of engagement and dissemination actions.	

Activities

Please describe activities and deliverables within the work package				
Activity nr	Title		Start month	End month
Activity 1	Develop tools for delivery of 4DHC projects		Sep-2016	Dec-2019
Expert PPs will write a non-technical Guide to 4DHC, explaining the 4 principles and how they interrelate. Energy efficiency retrofitting has a special focus, DH needing to be better integrated with it. Pilots + 7Vents (Normandy) will undertake/revise heat mapping to take a 4DHC perspective: adopting different heat thresholds. CO2 emission savings calculator will be tested and standardised for transnational use. A Guide for access to quality-checked expertise will be developed.				
	Deliverable nr	Title	Target value	End month
	Deliverable 1.1	4DHC project tools. Lead: Cerema, with HvA, Codema, CAP2020, Leiedal, UoG	3.00	Dec-2019
	Development of non-technical guide to 4DHC; guide to mapping heat demand and low grade waste heat from 4DHC perspective; CO2 emission calculator to provide accurate savings forecasts.			
	Deliverable 1.2	Guidance on integrating 4DHC with energy efficiency retrofitting. Lead: Codema, with CAP2020, 7Vents, Cerema, Aberdeen, S.Dublin	1.00	Dec-2019
	4DHC benefits significantly from low energy buildings. This publication will explain how to integrate 4DHC and Energy Efficiency investments to ensure key opportunities are not missed.			
	Deliverable 1.3	4DHC Procurement Guide. Lead: Energy Cities, with CAP2020, Codema, Kortrijk, BsM	1.00	Dec-2019
	A procurement guide on how to select and access multiple expert service providers selected according to quality criteria, to ensure procurement of qualified expertise. 4DHC is new. Project developers require the right expertise to develop good schemes.			
	Deliverable 1.4	4DHC Technology Guide. Lead UoG, with Mijnwater BV, CAP2020	1.00	Dec-2019
	A technical guide to 4DHC technology, energy grid integration, and building energy management.			
	Deliverable 1.5	4DHC Guide to home and building energy management. Lead: 7Vents, with BsM, S.Dublin, Aberdeen	1.00	Dec-2019
	A guide to good energy management in buildings supplied by 4DHC, including resident engagement and behaviour change approaches.			
	Deliverable 1.6	4DHC guide to Governance/Business Models. Lead: CAP2020, with Plymouth, Aberdeen, Leiedal, 7Vents, S.Dublin, BsM, Kortrijk	1.00	Dec-2019
	A detailed guide to establishing partnership/joint venture and other structures for managing 4DHC networks, and business models, heat supply contracts and other institutional aspects.			
Activity 2	Develop tools for 4DHC finance		Sep-2016	Dec-2019
Finance is one of the most significant barriers to 4DHC. This reflects underlying risk. Measures are needed to de-risk projects. We will develop project outputs into a 'Protocol' for 4DHC scheme proposals to bring them to 'investment ready' standard, working with ICP, incorporating non-technical guide, heat mapping guide, Procurement Guide, CO2 calculator, pricing model to estimate revenue streams, existing technical standards (e.g. CIBSE Heat Networks: Code of Practice for the UK).				
	Deliverable nr	Title	Target value	End month
	Deliverable 2.1	Guide to financing 4DHC. Lead: Plymouth, with Codema, Mijnwater BV, CAP2020, UoG	1.00	Dec-2019
	Report, providing overview of finance options, including both regional options and EU Financial Instruments. Regional options include partnerships, ESCOs, financial tools (eg Bonds), and integration of schemes with wider Energy Efficiency investments			
	Deliverable 2.2	4DHC Protocol for ICP. Lead: Plymouth, with Cerema, CAP2020, Mijnwater BV, UoG, Codema	1.00	Dec-2019
	Protocol for standardisation of 4DHC project design, developed with guidance from ICP Europe. Protocols will contribute to ICP tools developed to finance large Energy Efficiency investment projects. Includes development of pricing model/comparator			
Activity 3	Define the HeatNet Model		Sep-2016	Dec-2019
The HeatNet Model will be a Business Model based on 4DHC principles. This activity will be to package the tools described above into a single guide and using material from other WPs. Cerema will lead the process, working with all PPs. The guide will cover: 4DHC scope, elements, principles of design, governance and financial characteristics; policy and regulatory requirements; provision of expertise, procurement and finance.				
	Deliverable nr	Title	Target value	End month
	Deliverable 3.1	Main Output: HeatNet Model guide. Lead: Cerema, with all PPs	1.00	Dec-2019
	The HeatNet model guide will describe the fundamental principles and operational characteristics of 4DHC, and include guidance regarding 4DHC design and mechanisms to gain access to 4DHC finance and 4DHC expertise for individual projects.			

WP nr	Type	Title	Start month	End month	Budget
WP I1	investment	**Plymouth Living Lab**	Sep-2016	Nov-2019	1 541 087.91

Partners involvement

Partner responsible	Plymouth City Council
Partners involved	City of Dublin Energy Management Agency Ltd, Codema. Role: LP
	Plymouth City Council, PCC. Role: PP
	CAP 2020, CAP 2020. Role: PP
	University of Gent, UoG. Role: PP
	Amsterdam University of Applied Sciences, HvA. Role: PP
	Mijnwater B.V., Mijnwater . Role: PP
	South Dublin County Council, SDCC. Role: PP
	Centre for studies and expertise on Risks, Environment, Mobility, and Urban and Country Planning, CER. Role: PP

Investment summary

Please provide a description of the investment phases and technical specifications; if several partners are involved please specify who will do what. Note: Please elaborate if this investment will contribute to a project main output.
Plymouth City Council's (PCC) History Centre (HC) is adjacent to the University (UoP) Campus and close to student residential and other large public buildings. UoP has an existing heat network. Heat mapping and master planning studies have confirmed that its expansion has the potential to catalyse a wider heat network in the City Centre, of which there are other nodes under consideration at Millbay and Civic Centre. The planned refurbishment of the History Centre is an ideal opportunity to establish a 1st phase of this wider heat network. However, agreement to proceed is hampered by marginal viability and potentially unacceptable levels of financial risk for the UoP and PCC. HeatNet investment will alleviate those tensions and facilitate an agreement between the two parties to make the 1st stage of the city centre network a reality. The refurbished HC will operate at 4DHC temperatures and will increase the performance and running hours of the UoP CHP plant, providing electricity and low carbon heat saving 500t CO_2 pa. The investment comprises 3 phases. At each, the HeatNet 4DHC Team (HvA, UoG, Cerema, Codema, CAP2020) will review and advise on proposals, against 4DHC principles. Investment PPs Mijnwater BV and S. Dublin will mentor. All decisions on this pilot investment will be subject to joint decision making of the HeatNet steering group. Ph1 Feasibility Business Case for the 1st & 2nd investment stages, between UoP and HC 1st, then for an expanded heat network east and west of the UoP. Ph2 Design technical and contract documentation, public procurement of a contractor, detailed design of the pipeline including ancillary on and off campus works. Commercial agreements – heat supply and related agreements between PCC and UoP. Ph3 Implementation. Installation all infrastructure between UoP and HC. Network extensions as part of city centre heat network, as recommended by business case and detailed feasibility.

Justification

Explain the need for this investment to achieve project objective and results.
This pilot was chosen specifically because PCC is at mid-stages of developing DH in a relatively new DH market in UK, but has met intractable barriers. PCC has already valuable experience to contribute to the initial draft HeatNet Model, such as heat mapping, detailed feasibility, and DH planning. PCC need HeatNet to progress, using the HeatNet model's learnings from all other pilots and partners, particularly how to increase compatibility of 4DH, business models, how to best route DH networks. When complete, it will deliver energy, cost and carbon savings, be a demonstration for 4DH potential, and provide technical and non-technical evidence for the HeatNet evaluation, including how to upgrade college campus DH systems, public buildings as anchor loads, installing DH in busy urban areas, how to develop public/private contracts, and spatial policies for 4DH. End users include owners and users of public sector buildings and residential accommodation, who will benefit from lower heat costs.

Location of the investment
The investment is located in Plymouth City Centre, between the University campus and the city museum/library on North Hill.
NUTS 3 code
UKK41
Ownership Who owns the site where the investment is located? Who will retain ownership of the investment after the end of the project? Who will take care of maintenance of the investment? How will this be done?
PCC own the History Centre building and adjacent land including an existing small building which may be used to house ancillary plant, if hydraulic separation from UoP's heat network is required. The remainder of the land for the installation of the pipeline infrastructure is either owned by PCC or UoP. The intention is for PCC to retain ownership of all pipeline infrastructure and any other off-Campus assets. Investment in UoP's owned non-pipeline infrastructure will be retained by UoP. The pipeline will require limited maintenance. However, the aim will be to let a maintenance contract for the History Centre equipment including the pipeline with a requirement to monitor its performance. UoP will maintain its related Campus infrastructure through its existing arrangements. Provision will also be made to allow the pipeline to be extended to other properties as the heat network is expanded and as additional heat capacity comes available.
Investment documentation Please list the main technical requirements and permissions (e.g. building permits) required for the investment according to the respective national legislation. Please indicate if they are already available and if not by when they can be expected.
Technical requirements - There are no UK national regulations for heat networks, other than the Metering and Billing Regulations 2014, and therefore no specific technical requirements regarding the connection. Legislation is unlikely to be introduced during the lifetime of the project. However, various guidelines are already available providing guidance on best practice, including the CIBSE UK Heat Networks Code of Practice, March 2016. Permissions – The preferred route for the pipeline has been identified. As this project is being promoted jointly by PCC and UoP on land in either PCC's or UoP's ownership, the connection can be delivered under Permitted Development Rights in accordance with the Town and Country Planning (General Permitted Development) Order 1995 (as amended). If works are required to the small building adjacent to the History Centre for hydraulic separation, planning permission for change of use may be required.
Risks associated with the investment Description of the risks associated with the official approval of local/regional/national authorities, feasibility study required, procurement process to be applied, linked to the practical implementation phase, etc.
Risks of the pilot investment : Planning permission – risk low. Land ownership – risk low. Pipeline routing – risk medium. (Delivery risks due to other services in highway. Ground penetration radar surveys undertaken). Strategic investment – risk medium. (Joint approval of business case including need to sell heat across the UoP's boundary to PCC. Principle of district heating serving the History Centre established subject to heat availability). Pipeline connection and ancillary works procurement and construction – risk low. Programme and timetable – risk low. (Flexibility built into History Centre refurbishment contract to allow time to conclude commercial arrangements and deliver heat connection). Public acceptance – low risk. Disruption to existing University heat network – risk low. Finance – risk medium. (Assumed co-funding available reduces risk. However, also depends on the result of modelling heat pricing and heat availability for the different phases of investment).

Main outputs

Please describe the project main outputs that will be delivered based on the activities carried out in this work package. For each project main output a programme output indicator should be chosen. Please note that they need to have the same measurement unit.

Project main output	Describe the project main output and its contribution to project sub-objectives	Quantify the contribution	Delivery month	Programme output indicator to which the project main output will contribute. Please check the Programme Manual for the obligatory output indicators.
		0.00	Sep-2019	2.08. Estimated annual decrease of GHG

Target groups

Target groups per main project output	
Who will use the main outputs?	• local public authority • national public authority • higher education and research
How will target groups be involved in the development of the project main outputs?	
The relationship between UoP and PCC will evolve as commercial terms are negotiated and as new risks and challenges emerge in planning for the network's expansion. Evidence from the evaluation of the pilot and the development of the local transition roadmap will be shared with various target groups. These include: 1. Public and private sector organisations in the vicinity of the catalyst network, e.g. University Partnerships Programme (UPP) responsible for student accommodation, the College of Arts and Technology and the Copthorne Hotel; 2. Other stakeholders in the City who potentially might benefit from 4DH, e.g. the Hospitals Trust, local Housing Associations and private developers. Stakeholder feedback will therefore not only shape and support the main project outputs but will also impact on the expansion potential of the heat network, the opportunity to leverage private sector investment and the pace and enthusiasm for developing 4DH in other areas of the City.	

Activities

Please describe activities and deliverables within the work package				
Activity nr	Title		Start month	End month
I1.1	Feasibility: Business Case Development for Heat Network		Sep-2016	Jul-2017
Heat mapping, technical feasibility and detailed options and costs already completed. The results, together with the options for procurement, draft commercial terms of the heat supply agreement and the sources of finance, will inform the preparation and approval of a joint business case. The business case development process will provide evidence for the HeatNet model and will also feed the evaluation work package and inform the local transition roadmaps and the 4DH guide.				
	Deliverable nr	Title	Target value	End month
	Deliverable I1.1.1	Business Case for the Heat connection to the Plymouth History Centre	1.00	Jun-2017
	Joint business case prepared by PCC, supported by UoP, with external legal, commercial, financial and technical advice. Advice will also be drawn from other members of the consortium.			
	Deliverable I1.1.2	Business Case for wider city centre heat connections to buildings east and west of Plymouth University's Campus	1.00	Jul-2017
	Joint business case prepared by PCC, supported by UoP, with legal, commercial, procurement, financial and technical advice. Advice will be drawn from other members of the consortium			
	Deliverable I1.1.3	Transnational Review of Business Case	1.00	Jul-2017
	4DHC Team and mentors review Business Case against 4DHC principles and provide written summary and recommendations.			
I1.2	Design and Technical Documentation for the procurement of the Heat Connection and related Commercial Agreements:		Sep-2016	Mar-2018
Completion of the design and specification and agreement of commercial terms between PCC and UoP allowing for potential growth of the heat network, on and off-Campus, including a framework for governing the relationship between PCC and UoP. This could vary from full collaboration on specific terms or the right to purchase heat supplies and the right to sell heat on. Resolve conflicting positions, eg reliability of heat supply, penalties for failure, volume of heat required, timing of heat.				
	Deliverable nr	Title	Target value	End month
	Deliverable I1.2.1	Detailed design and procurement	1.00	Mar-2018
	Detailed design and specification of works for the connection, including ancillary/enabling works. Procurement of a works contractor.			
	Deliverable I1.2.2	Heat supply agreement and related commercial documentation	1.00	Mar-2018
	Report by PCC, including the negotiated heat supply agreement and other collaboration and commercial documentation, for connection of the History Centre.			
I1.3	Implementation: Delivery of a heat connection to the History Centre		Mar-2018	Nov-2019
This activity will involve the installation of the pipes and ancillary equipment and will most likely involve hydraulic separation from the existing Campus heat network. In addition to the pipeline of some 180m, which will cross a busy city street, it will include the installation of primary heat exchanger on the Campus and additional water treatment, pressurisation and pumps in a disused building adjacent to the History Centre. Connection to residential blocks.				
	Deliverable nr	Title	Target value	End month
	Deliverable I1.3.1	Procurement and delivery of the heat connection from the University's Heat Network to the History Centre	1.00	Nov-2019
	Procurement documentation and process. Installation of network pipes and ancillaries.			

WP nr	Type	Title	Start month	End month	Budget
WP I2	investment	**South Dublin Living Lab**	Sep-2016	Nov-2019	1 025 426.00

Partners involvement

Partner responsible	South Dublin County Council
Partners involved	City of Dublin Energy Management Agency Ltd, Codema. Role: LP
	Plymouth City Council, PCC. Role: PP
	CAP 2020, CAP 2020. Role: PP
	University of Gent, UoG. Role: PP
	Amsterdam University of Applied Sciences, HvA. Role: PP
	Mijnwater B.V., Mijnwater . Role: PP
	South Dublin County Council, SDCC. Role: PP

Investment summary

Please provide a description of the investment phases and technical specifications; if several partners are involved please specify who will do what. Note: Please elaborate if this investment will contribute to a project main output.
An area of S Dublin has high potential to develop a DH network. Customers identified as main anchor loads for the initial phase of DH development are public sector buildings including a large national hospital. These customers are supportive and have provisionally agreed to connect saving 1900t CO2/pa after 5yrs. The investment involves the large upfront costs of DH pipework installation (just under 1km pipe) to connect these buildings to an energy centre site. The energy centre site and most land in the area is under ownership of the municipality. The investment is planned in 3 phases & all will be jointly decided upon by the Steering Group. At each Phase the HeatNet 4DHC Team (HvA, UoG, Cerema, Codema, CAP2020) will review and advise against 4DHC principles and the evolving HeatNet model. Investment PPs Mijnwater BV and Plymouth will mentor. Ph1 Feasibility: Preliminary study of possible pipe route - minimise route length, identify existing utilities, possible traffic and business disruption, minimise way leaves. Site investigations - to identify potential issues in pipe installation, i.e. geology, other underground services in the area, environmental issues, disruption to nearby sites, etc. Ph2 Design: Preliminary techno-economic design of energy centre - Take account of 4DH principles and look to supply the DH system with least fuel intensive/CO2 producing resources. Procurement of contractor to install and design the pipelines and heat exchangers. Final pipeline design and routing based on temperature requirements, pressures, depth/width of trench required, reducing losses, 4DH principles etc. Design of customer DH system retrofit – heat exchanger sizes, etc. Ph3 Implementation: Pipeline installation by contractor to install pipelines, heat exchangers, manifolds etc. The investment will enable future components of the network: Final energy centre design and construction. All phases will contribute to and learn from the HeatNet model & apadt accordingly.

Justification

Explain the need for this investment to achieve project objective and results.
This pilot was chosen specifically as Dublin is at very early stages of planning DH in a market with no DH and faces many barriers. Dublin has experience it can contribute to the initial draft HeatNet Model, such as heat mapping, DH planning and feasibility methods & metrics. In order to establish DH in Ireland, Dublin needs to access the learnings of other pilots and partners through utilising the HeatNet model, particularly how to choose pipe sizes and routes, retrofit DH in large public buildings and business models for DH. When complete, it will be the only DH system in Dublin, delivering cost, energy and CO2 savings for public sector buildings, and will result in evidence-based barrier identification and tool implementation for the HeatNet Model, including how to establish DH and supply contracts in a new market, and optimising existing buildings for 4DH. The end-users are public sector buildings and will benefit from expertise and co-funding of upfront costs of DH infrastructure

Location of the investment
Located in the dense urban location of Tallaght within the municipality of South Dublin, in the mid-eastern of Ireland, the investment is set between a group of buildings, the majority of which are publicly owned, in the heart of Tallaght town centre
NUTS 3 code
IE021
Ownership Who owns the site where the investment is located? Who will retain ownership of the investment after the end of the project? Who will take care of maintenance of the investment? How will this be done?
The municipality, South Dublin County Council (SDCC), and the National Adelaide and Meath Hospital own the sites where the pipeline will be routed, therefore no way leaves are expected. South Dublin municipality will retain ownership of the pipeline investment, and will retain ownership of heat exchangers on both sites. SDCC will obtain a maintenance contract for the pipelines and heat exchangers, possibly included in the contract procured for ESCO services for the energy centre. The pipelines themselves will require little maintenance. The pipelines will have advanced sensor systems to warn of any breaches in insulation or leakage.
Investment documentation Please list the main technical requirements and permissions (e.g. building permits) required for the investment according to the respective national legislation. Please indicate if they are already available and if not by when they can be expected.
Technical Requirements: There are currently no national regulations or legislation for heat networks, and therefore no technical requirements regarding pipeline installation. There are no expectations that these will become available during the project lifetime, and so best practice standards will be applied, such as CIBSE UK Heat Networks Code of Practice. Permissions needed: Planning permission for civil works to install underground pipelines. Has not already been applied for as the final pipeline route has not been defined. This will be applied for after the final pipeline design and route has been chosen by contractor, approximately Q2 Y2.
Risks associated with the investment Description of the risks associated with the official approval of local/regional/national authorities, feasibility study required, procurement process to be applied, linked to the practical implementation phase, etc.
Planning permissions: Risk Level Low Local/National authorities approval: Risk Level Low Customer connections: Risk Level Low Contractor Procurement: Risk Level low ESCO procurement: Risk Level low Public acceptance: Risk Level Low Suitable pipe route: Risk Level Low Disruption to Hospital Supply: Risk Level low Private wire network compliance: Risk Level medium Geophysical constraint delay: Risk Level low A medium level risk identified is the regulations surrounding private wire network use in Ireland, which may mean a CHP based DH system may not be possible in this case. This risk is only for a system involving a CHP, and the DH supply can alternatively be based on a boiler system with no electrical production, but this option is likely to have a lower economic return.

Main outputs

Please describe the project main outputs that will be delivered based on the activities carried out in this work package. For each project main output a programme output indicator should be chosen. Please note that they need to have the same measurement unit.

Project main output	Describe the project main output and its contribution to project sub-objectives	Quantify the contribution	Delivery month	Programme output indicator to which the project main output will contribute. Please check the Programme Manual for the obligatory output indicators.
		0.00	Dec-2019	2.08. Estimated annual decrease of GHG

Target groups

Target groups per main project output	
Who will use the main outputs?	• local public authority • sectoral agency • infrastructure and (public) service provider • SME
How will target groups be involved in the development of the project main outputs?	
Users of the outputs: Municipalities – South Dublin County Council, other councils planning networks; Public sector bodies – Energy Regulator, Hospital, Sustainable Energy Authority; Customers – Hospital, Municipality, other surrounding buildings; ESCOs – Potential operators of the system. How they will be involved: Public sector bodies – the Central Energy Regulator will be consulted on regulation for heat networks; Sustainable Energy Authority of Ireland will be consulted on CHP regulations and will use the outputs from this pilot to showcase to the rest of Ireland; The National Hospital is the main anchor load customer on the Network; Municipalities – South Dublin County Council are leading this Investment; Customers – will be consulted and informed throughout the project; ESCOs – Energy companies will be consulted regarding interest and proposals for the Energy Centre design and operation.	

Activities

Please describe activities and deliverables within the work package				
Activity nr	Title		Start month	End month
I2.1	Feasibility: Preliminary Study of Energy Centre Site and Pipe Route Options		Sep-2016	Apr-2017
Choose energy centre site, and identify options for pipeline routes analysed, minimising route length, identify health and safety issues, identify existing utilities, possible traffic and business disruption, reduce way leaves, etc. This activity will be informed by strategic studies (Dublin Roadmap, Long-term WP). Lessons learned will contribute to HeatNet Model WP deliverable '4DHC Design Toolkit' .				
	Deliverable nr	Title	Target value	End month
	Deliverable I2.1.1	Preliminary Study of Options for 4DH site in Tallaght, South Dublin	1.00	Apr-2017
	Report. Carried out by CODEMA and SDCC. Input/advice from expertise within consortium. Presenting an options appraisal and recommendations.			
	Deliverable I2.1.2	Transnational Review of Options Appraisal	1.00	Apr-2017
	4DHC Team and mentors review Options Appraisal against 4DHC principles and provide written summary and recommendations			
I2.2	Design: Preliminary Techno-Economic Design Options for 4DH Energy Centre		Sep-2016	Mar-2017
The analysis will take account of technical 4DH principles and appraised from a socio-economic perspective, with outputs based on how to make most socio-economic beneficial option attractive from a business-economic perspective. It will also inform the options for procurement of an ESCO to build and operate the centre, and the space which may be required for the energy centre (biomass storage, hot water storage, etc.).				
	Deliverable nr	Title	Target value	End month
	Deliverable I2.2.1	Preliminary Techno-Economic Design Options for 4DH Energy Centre	1.00	Mar-2017
	Report. Carried out by CODEMA, with input/feedback from expertise within the consortium. Comprising outline business case and high level design parameters.			
I2.3	Implementation: Procurement and Delivery of infrastructure for DH system		Apr-2017	Nov-2019
Procurement of detailed site investigations, 4DHC pipeline design and installation, and procurement of an ESCO for a Design Build Operate (DBO) contract, or similar, for the Energy Centre. Expertise is required for a site investigation to identify potential issues in pipe installation such as geology, other underground services in the area, environmental issues, disruption to nearby sites, etc., and may require ground penetrating radar surveys.				
	Deliverable nr	Title	Target value	End month
	Deliverable I2.3.1	Procurement and Delivery of Services for Final Site Investigations	1.00	Jun-2017
	Specification of works agreed, documentation published and procurement undertaken according to relevant procedures. Contractor appointed and Site investigation report delivered.			
	Deliverable I2.3.2	Procurement of DH Network and Energy Centre (Design Build Operate contract)	1.00	Jan-2018
	Scope and specification of contract agreed, documentation published and procurement undertaken according to relevant procedures. Contractor appointed.			
	Deliverable I2.3.3	DH Network Construction and Heat Exchanger Installation	1.00	Nov-2019
	Construction and installation of twin insulated heat network pipes between the hospital, municipal offices and energy centre site, according to agreed design. Heat exchangers installed at municipal offices and hospital.			

WP nr	Type	Title	Start month	End month	Budget
WP I3	investment	**Aberdeen Living Lab**	Sep-2016	Nov-2019	726 347.50

Partners involvement

Partner responsible	Aberdeen City Council
Partners involved	City of Dublin Energy Management Agency Ltd, Codema. Role: LP
	CAP 2020, CAP 2020. Role: PP
	City of Kortrijk, Kortrijk. Role: PP
	City of Boulogne-sur-Mer, BsM. Role: PP
	University of Gent, UoG. Role: PP
	Amsterdam University of Applied Sciences, HvA. Role: PP
	Aberdeen City Council, ACC. Role: PP
	Centre for studies and expertise on Risks, Environment, Mobility, and Urban and Country Planning, CER. Role: PP

Investment summary

Please provide a description of the investment phases and technical specifications; if several partners are involved please specify who will do what. Note: Please elaborate if this investment will contribute to a project main output.
Extending existing DH through city centre to connect a mix of public sector buildings, offices, retail units and an educational establishment, whilst establishing the prospect and principals of 4DHC. Saving 7000t CO2 pa. At each Phase, the HeatNet 4DHC Team (HvA, UoG, Cerema, Codema, CAP2020) will review & advise on proposals against 4DHC principles. Investment PPs BsM and Kortrijk will mentor. Decisions will be subject to joint decision making of HeatNet steering group. Ph1 Feasibility. Aberdeen City Council (ACC) and Aberdeen Heat & Power (AH&P) will lead stakeholder discussions regarding the intended network: extension of the network from an existing node, Town House, to Aberdeen Art Gallery and City Library – all providing anchor loads for development of the city centre network. Originally conceived as 3DHC the routes to 4DHC will be explored. Potential commercial customers will be engaged. For targeted buildings, a full feasibility study will determine patterns and level of consumption, types of heating systems currently installed, the potential to make a district heating connection and the cost and potential to convert internal systems to lower temperature operating systems to satisfy the requirements of the 4DHC system. The feasibility study would identify the costs involved in installation of the network, the connection details and costs / cost savings for each potential stakeholder and the level of carbon saving that could be identified. This phase will be undertaken by AH&P in consultation with an experienced district heating designer/consultant. Ph2 Design. A specification of performance will highlight options that are available and the technical solutions for the network and the individual connections, taking account of the design of each node and how they can be built into a 4DHC system at the outset, or later. A design consultant will be appointed. Ph3 Implementation. The network main will be installed and buildings connected.

Justification

Explain the need for this investment to achieve project objective and results.
This pilot was chosen specifically because Aberdeen already has some small DH systems but is facing barriers to extending and connecting the network & incorporating 4DH. Aberdeen has valuable experience it can contribute to the initial draft HeatNet model, such as details around current DH system operation, planning and contracts, and business models used. In order to progress their DH plans, Aberdeen needs HeatNet to provide guidance on identifying suitable demands, connecting DH nodes & retrofitting for low-temperature supply. This will be provided by other pilots and partners through evaluation feedback for the HeatNet Model. When complete, this investment will deliver valuable cost savings, low-carbon energy & CO2 savings, and learnings for the HeatNet model such as how to lower temperature requirements, integrating waste heat and gaining customer connection agreements. The end-users are public, commercial and residential buildings, benefitting from lower costs.

Location of the investment
The project location is Schoolhill within the city centre of Aberdeen, bounded by the Town House and Aberdeen City Library
NUTS 3 code
UKM50
Ownership Who owns the site where the investment is located? Who will retain ownership of the investment after the end of the project? Who will take care of maintenance of the investment? How will this be done?
The roads through which the network piping would pass are managed by the City Council (ACC) . Obtaining planning permission for pipework routing would generally not be refused without good grounds. The City Council owns and operates anchor load buildings at each end of the proposed development route and also an interim anchor load. Other potential connections to non-Council stakeholders would be owned by private landlords and any wayleaves required to pass through their grounds would be required to form part of the connection agreement, but these are not critical to the scheme. Aberdeen Heat & Power (AH&P) will retain ownership for the underground piping and connection points up to agreed demarcation points within buildings, and ultimately be responsible for its care and maintenance. A framework agreement is already in place between ACC and AH&P covering these aspects. In the case of demise of AH&P, ownership of the Network will resort to Aberdeen City Council.
Investment documentation Please list the main technical requirements and permissions (e.g. building permits) required for the investment according to the respective national legislation. Please indicate if they are already available and if not by when they can be expected.
Planning permission will be required for the installation works of the underground piping within the public highway on this proposed route for the pilot project. This would carry restrictions for traffic management and specification of the re-instatement of road surfaces and sub surfaces. The planning application will be submitted following survey of existing services and detailed route planning. This cannot be applied for as yet, being subject to the feasibility studies, but in the past this has not been unduly with-held. Individual connections to non-council properties will require approval by respective landowners / landlords, but if a connection is feasible and agreeable, then an agreement would be put in place which covered the terms of the installation and connection and thereby the supply arrangements.
Risks associated with the investment Description of the risks associated with the official approval of local/regional/national authorities, feasibility study required, procurement process to be applied, linked to the practical implementation phase, etc.
The principal risks associated with this project are: • Risk to routing of network piping due to existing services in a busy and established part of the city • Road closure management • Non participation of private sector stakeholders • Development of 4DHC principals in older style buildings and systems • Capacity of the network to support the pilot (may be dependent on investment elsewhere to provide capacity) • Approval of Local Authority Committee • Approvals of all key stakeholders to meet the project programme • Programme timeline implications due to one or more of the above risks • Choice of the experienced design company to carry out the detailed feasibility study • Planning constraints in this part of the city The risks highlighted are relatively low and are mitigated through applying early stakeholder engagement, developing detailed designs, and following procedure for planning approval for the pipeline which would generally not be refused without good grounds.

Main outputs

Please describe the project main outputs that will be delivered based on the activities carried out in this work package. For each project main output a programme output indicator should be chosen. Please note that they need to have the same measurement unit.

Project main output	Describe the project main output and its contribution to project sub-objectives	Quantify the contribution	Delivery month	Programme output indicator to which the project main output will contribute. Please check the Programme Manual for the obligatory output indicators.
		0.00	Sep-2019	2.08. Estimated annual decrease of GHG

Target groups

Target groups per main project output	
Who will use the main outputs?	• local public authority • sectoral agency • infrastructure and (public) service provider • enterprise, excluding SME • SME
How will target groups be involved in the development of the project main outputs?	
The main target groups will be public sector and commercial sector. Public stakeholders are within the City Council: Property Asset Management, Facilities Management, and relevant service heads. Commercial stakeholder are the landlords and leaseholders/owners of commercial premises along the route of the network. First priority will be to gain agreement regarding connection of the anchor loads (Town House, Art Gallery, City Library) through identification and meeting with individual decision-makers, internal reports and presentation to Elected Members. Commercial decision makers will be identified through a stakeholder analysis. Contact will be individually tailored, making the most of existing relationships. Detailed discussions and commercial agreements will follow on, as appropriate.	

Activities

Please describe activities and deliverables within the work package				
Activity nr	Title		Start month	End month
I3.1	Feasibility: Preliminary Feasibility Study for Demonstration Area		Sep-2016	Jul-2017
Study into the potential for the extension of the existing heat network through the city centre, looking at the options of how delivery can be made, the network capacity, and investigation of integrating 4DHC principles into an existing network. The pipeline routes will require investigation due to the existing city centre infrastructure and traffic routes.				
	Deliverable nr	Title	Target value	End month
	Deliverable I3.1.1	Feasibility Study	1.00	Jun-2017
	Report on technical and economic viability, considering various technical and operational options.			
	Deliverable I3.1.2	Provide data on energy use and the type of energy contracts which are in place	1.00	Jun-2017
	Gather detailed data on energy consumption, and supply in commercial buildings; how businesses buy their energy, type/length of contract; how purchasing decisions are made, including relevant Landlord agreements which are held			
	Deliverable I3.1.3	Transnational Review of Business Case	1.00	Jul-2017
	4DHC Team and mentors review Business Case against 4DHC principles and provide written summary and recommendations			
I3.2	Design: Preparing detailed design, and securing consents		Sep-2016	Mar-2018
Procuring consultants to prepare a detailed design of the heat network, including route of the pipe. Securing consents.				
	Deliverable nr	Title	Target value	End month
	Deliverable I3.2.1	Final design and consents	1.00	Mar-2018
	Evaluate design options and develop final business case. Determine most appropriate pipe routes and go through formal planning process to secure consent. Identify, negotiate and secure any way leaves required.			
I3.3	Implementation: Heat network construction		Mar-2018	Nov-2019
Preparation and implementation of the investment which will include the procurement of contractor and installation and commissioning of the infrastructure.				
	Deliverable nr	Title	Target value	End month
	Deliverable I3.3.1	Procure contractor	1.00	Dec-2018
	Procure contractors and infrastructure equipment through OJEU compliant scheme. Evaluate tender returns based on quality and cost effectiveness measures and ultimately place contracts for pipework supply, civil works and installation of pipework			
	Deliverable I3.3.2	Installation of mains pipework and ancillaries	1.00	Nov-2019
	Installation and commissioning of underground pipework and branches to termination points at relevant buildings along the main route, including connection back to the existing network at Town House.			

WP nr	Type	Title	Start month	End month	Budget
WP I4	investment	**Kortrijk Living Lab**	Sep-2016	Nov-2019	1 428 859.50

Partners involvement

Partner responsible	City of Kortrijk
Partners involved	City of Dublin Energy Management Agency Ltd, Codema. Role: LP
	CAP 2020, CAP 2020. Role: PP
	City of Kortrijk, Kortrijk. Role: PP
	Intermunicipal Association Leiedal , Leiedal. Role: PP
	City of Boulogne-sur-Mer, BsM. Role: PP
	University of Gent, UoG. Role: PP
	Amsterdam University of Applied Sciences, HvA. Role: PP
	Aberdeen City Council, ACC. Role: PP
	Centre for studies and expertise on Risks, Environment, Mobility, and Urban and Country Planning, CER. Role: PP

Investment summary

Please provide a description of the investment phases and technical specifications; if several partners are involved please specify who will do what. Note: Please elaborate if this investment will contribute to a project main output.
The area of 'Campus Kortrijk Weide' is a brownfield, and is a site where sustainability in all its aspects will be the lead precondition in the development. An ecological area of 2.5 ha is planned; along with the construction of new public buildings, including a hall and a swimming pool and two new school buildings. 3DHC was previously anticipated but viability is a barrier. 4DHC could be the solution. HeatNet investment will enable testing 4DHC suitability and benefits and allow on site research, eg on alternative energy sources. The system will be based on a CHP (combined heat and power) & a double pipeline, allowing flexibility in temperature and heat source of the network. Furthermore on a larger scale, along the river Leie, reconversion of an old hospital, new dwellings, reconversion of a school site and industrial zones will take place. The garbage incinerator is located at 3.4 km from the furthest development. The municipality wants to invest (together with other partners in ESCO – Energy Services Company) in a connection between the incinerator and the new developments along the river. At each Phase of investment the HeatNet 4DHC Team (HvA, UoG, Cerema, Codema, CAP2020) will review and advise on proposals, against 4DHC principles. Investment PPs BsM and Aberdeen will mentor. All decisions will be subject to joint decision making of the HeatNet steering group. Ph1 Feasibility. Preliminary techno-economic design to extend and connect the net towards the Ghent University buildings, & of energy HUB's at reconversion sites (old hospital and old gas-site). Take account of the 4DHC principles. Ph2 Design. Final pipeline design and routing, & landowner agreements. Procurement of works contractor & ESCO for Design Build Finance Maintain, managed by the DH company. Ph3 Implementation. Installation of pipes and other infrastructure on Campus. Connection of the 'heat demanding' buildings on Campus. Installing the smart metering infrastructure.

Justification

Explain the need for this investment to achieve project objective and results.
This pilot was chosen specifically for HeatNet because Kortrijk are planning a first phase DH development and want to extend and connect more buildings, but face barriers including perceived risks. Kortrijk has already designed & planned the 1st phase DH system, and so can bring this experience to the initial draft HeatNet model. To progress their plans and enable a 4DH approach, this pilot needs the HeatNet model's guidance on how to convert buildings for 4DH, how to connect disparate hubs, and how to overcome economic risks. When complete, this pilot will deliver efficient, low-carbon heat, and feedback all learnings and experience to further develop the HeatNet model, such as economical and technical feasibility results, testing of flexible heat sources, & results of smart metering. End-users will be municipal and community buildings, with some private in 3rd phase, and will benefit from heat savings

Location of the investment
The pilot will be situated in the centre of Kortrijk on Campus Kortrijk Weide, Magdalenastraat, Kortrijk, close to the river Leie, where several new residential projects are planned in the years to come.
NUTS 3 code
BE254
Ownership Who owns the site where the investment is located? Who will retain ownership of the investment after the end of the project? Who will take care of maintenance of the investment? How will this be done?
The site for the first part of the pilot is city-owned. And will be managed directly by the service company that is designated by the city itself. Procurement to be started yet. The second part is partly public domain, partly owned by the Province of West-Flanders and the Ghent University. The investment in the extension towards the buildings of the Ghent university buildings will be supported by the Interreg project, but the agreements on who will be the owner of the system is not yet signed. Most probably a third party: being the net-company (Eandis) will manage the heat-net system. The further roll out of the 4DHC will be owned by the different stakeholders (developers, net-owners, city)
Investment documentation Please list the main technical requirements and permissions (e.g. building permits) required for the investment according to the respective national legislation. Please indicate if they are already available and if not by when they can be expected.
Building permits will be needed, for the first phase (campus Kortrijk Weide) the permits are in procedure and are expected by November 2016. For the second phase (extension towards HoWest, UGent buildings) the permits will be claimed beginning of 2017. Technical requirements for the building of the heat network are detailed already, but not in procurement phase. The more extended net and the HUB's to feed the net along the river Leie are still in the phase of prospection and planning, so all permits and technical requirements remain to be secured
Risks associated with the investment Description of the risks associated with the official approval of local/regional/national authorities, feasibility study required, procurement process to be applied, linked to the practical implementation phase, etc.
In the first part of our pilot risks are rather small: the investments are in hands of the city and partners. The authorisation to build is acquired and the heat net is incorporated in the planning, but adaptation to 4DHC is required – a small task for this part and low risk. For this first part, the main feasibility study is available. For the extension toward Howest-UGent campus, the calculations are yet to be performed and the business plan is to be developed within the HeatNet project. We anticipate learning from the first stage of implementation and so minimise risks for stage 2.

Main outputs

Please describe the project main outputs that will be delivered based on the activities carried out in this work package. For each project main output a programme output indicator should be chosen. Please note that they need to have the same measurement unit.

Project main output	Describe the project main output and its contribution to project sub-objectives	Quantify the contribution	Delivery month	Programme output indicator to which the project main output will contribute. Please check the Programme Manual for the obligatory output indicators.
		0.00	Nov-2019	2.01. Number of solutions facilitating the delivery of existing or emerging low carbon, energy or climate protection strategies

Target groups

Target groups per main project output	
Who will use the main outputs?	• local public authority • higher education and research • education/training centre and school • SME • General public
How will target groups be involved in the development of the project main outputs?	
All stakeholders in the Campus and related regeneration areas will be involved through engagement and consultation on the general regeneration plans and on detailed proposals for 4DHC, especially concerning building needs for heat, and regarding waste energy resources, at each Phase of the investment WP. Kortrijk, working with Leiedal and UoG and supported by mentors Aberdeen and BsM, will stage consultation events, hold stakeholder interviews, and gather and analyse data from stakeholders. The number of key stakeholders like end-users is limited (City of Kortrijk, Ghent University Campus, swimming pool operator, also real estate developers and other public building owners, district heating operators, potential heat suppliers...). the partner building the swimming pool will be a key player and will be involved in all planning, technical meetings and design of the CHP plant, since it will be installed in the building of the pool (the biggest user of heat))	

Activities

Please describe activities and deliverables within the work package				
Activity nr	Title		Start month	End month
I4.1	Feasibility: Network extension		Sep-2016	Jul-2017
Feasibility studies for the first installation are already complete, except review for the 4DHC approach, and so this activity focusses on later stages of implementation: the extension of the network towards Gent University buildings and neighbouring reconversion sites, the route taken etc.				
	Deliverable nr	Title	Target value	End month
	Deliverable I4.1.1	Feasibility study and business case.	1.00	Jun-2017
	Studies to inform decisions and future design studies regarding extension of the network to subsequent stages, but also upgrading towards 4DHC with flexible temperature regimes, flexible sources, heating and cooling and interconnection of different HUB's			
	Deliverable I4.1.2	Transnational review of Business Case.	1.00	Jul-2017
	4DHC Team and mentors review Business Case against 4DHC principles and provide written summary and recommendations			
I4.2	Design: Technical and design study		Jul-2017	Mar-2018
Technical and design study for the extension of the heat net and connecting the net towards the Ghent University buildings.				
	Deliverable nr	Title	Target value	End month
	Deliverable I4.2.1	Technical study with dossier ready for procurement	1.00	Mar-2018
	Report in Dutch with an English summary that contains the technical information that can directly lead to the specifications used for procurement of the dossier.			
	Deliverable I4.2.2	Design study for the installation of the business structure (ESCO or other 'green heat' company model)	1.00	Mar-2018
	Report in Dutch with an English summary that contains all legal and economic information to proceed to the installation of the unit.			
I4.3	Implementation: Development of 1,2 HUB's of concentrated heat source/heat demand and creating, according to feasibility studies, the right links between HUB's		Mar-2018	Nov-2019
In the first stage of implementation, Kortrijk will invest in a heat net that will be completely in public hands. This investment will connect the swimming pool, party hall, youth centre and incubation centre for start-ups with a flexible heat net (flexible in direction and flexible in temperature, also extendable). This will deliver the critical mass, and will be the project where all other new opportunities or new projects can learn and see how a heat net can function successfully.				
	Deliverable nr	Title	Target value	End month
	Deliverable I4.3.1	Heat net pipes Stage 1: Campus Kortrijk Weide	1.00	Mar-2019
	The installation of heat net pipes of approx. 500m and ancillary equipment			
	Deliverable I4.3.2	Heat network pipes Stage 2: connection towards UoG	1.00	Jun-2019
	Installation of heat distribution pipes extended towards the boundary of Campus Kortrijk Weide, future proofed for later extension of the net or interconnection of the HUB's			
	Deliverable I4.3.3	Heat production and management infrastructure	1.00	Aug-2019
	Further extension of the heat net, towards the reconversion site that will be developed along the river Leie. With at least one extra energy HUB (production of heat or recovery of heat)			

WP nr	Type	Title	Start month	End month	Budget
WP I5	investment	**Heerlen Living Lab**	Sep-2016	Nov-2019	1 607 530.04

Partners involvement

Partner responsible	Mijnwater B.V.
Partners involved	City of Dublin Energy Management Agency Ltd, Codema. Role: LP
	Plymouth City Council, PCC. Role: PP
	CAP 2020, CAP 2020. Role: PP
	University of Gent, UoG. Role: PP
	Amsterdam University of Applied Sciences, HvA. Role: PP
	Mijnwater B.V., Mijnwater . Role: PP
	South Dublin County Council, SDCC. Role: PP
	Centre for studies and expertise on Risks, Environment, Mobility, and Urban and Country Planning, CER. Role: PP

Investment summary

Please provide a description of the investment phases and technical specifications; if several partners are involved please specify who will do what. Note: Please elaborate if this investment will contribute to a project main output.
The objective of the Heerlen pilot is to move to advanced 4DHC by connecting high temperature industrial waste heat to the existing Heerlen DHC grid. This waste heat will be used for heat demand within a new cluster (called Cluster D) of customers, and support heat to the rest of the city by the existing minewater backbone. This waste heat will reduce the need for electricity for heat pumps, and associated costs and CO2 of electricity. The investment will cover the costs of a cluster energy plant (basement to connect the cluster to the existing backbone), necessary grid extensions and the connection of a multi-functional centre, which will make use of the saved energy. Linked to the high temperature source of waste heat, high temperature storage will be investigated and temperature fluctuation on the grid to enable peak shaving on the connected heat pumps. The grid extension will give example in a new area of the city for new type of customers (industry, individual dwellings). Part of the grid is already established and most customers are in a negotiation phase. At each, the HeatNet 4DHC Team (HvA, UoG, Cerema, Codema, CAP2020) will review and advise on proposals, against 4DHC principles. Investment PPs Plymouth and S. Dublin will mentor. All decisions will be subject to joint decision making of the HeatNet steering group. Ph 1. Financing, contracting, licensing, initial design of grid, building plants and building modifications. Ph 2. Program of demands, procurement Ph 3. Realisation, commissioning. Mijnwater BV (the energy company of the city) prefers to operate the building plants under its own management. Thus the highest CO2-reduction, lowest energy consumption and maximum revenues on area level can be reached. Due to Dutch Heat Law the selling prices for DHC support are limited. A healthy business case can only be gained from improving efficiencies and optimizing overall performance.

Justification

Explain the need for this investment to achieve project objective and results.
This pilot was chosen specifically for HeatNet because Heerlen has already many elements of 4DH systems in place, but is facing high risks and difficulty competing with fossil fuels. As the most experienced DH partner, Heerlen can contribute a lot to the draft HeatNet model, such as how to utilise geothermal heat, using heat pumps with DH, business models and contracting. Heerlen needs the HeatNet model's guidance on how to strengthen business cases to financial institutions, and to establish contracts to supply private households and industry. When this investment is successfully complete, it will deliver low-carbon heat from waste heat sources, lower the costs to customers, and will feedback much needed learnings from the pilot implementation such as how to recover high temperature industrial waste heat, template contracts for all customer types, and how to extend 4DH networks. The end users are public, private and industrial heat consumers benefitting from lower cost heat delivery

Location of the investment
The investments will take place in the Nieuw Lotbroek district to the north west of the city centre.
NUTS 3 code
NL423
Ownership Who owns the site where the investment is located? Who will retain ownership of the investment after the end of the project? Who will take care of maintenance of the investment? How will this be done?
All infrastructure in public area will be owned by Mijnwater BV. The municipality Heerlen is 100% shareholder. If possible we also own (and operate) the building energy plants and installations. Some customers might prefer to own and operate their own building installations. In that case Mijnwater acquires building rights for the building energy plants with heat exchangers and monitoring. At end of project, the ownership will remain with Mijnwater. Mijnwater is re-organizing in 3 companies: consultancy, development and exploitation. The financial risks are posted at the development company. After commissioning the assets are transferred to the exploitation company. This legal entity operates within a healthy business case. The funding will help to enable a competitive transfer (in regardance to cheaper fossil solutions) of the low carbon development to the exploitation company.Mijnwater has long term contracts with installers and administrators for maintenance/services.
Investment documentation Please list the main technical requirements and permissions (e.g. building permits) required for the investment according to the respective national legislation. Please indicate if they are already available and if not by when they can be expected.
Technical Requirements: There are currently no national regulations or legislation for heat networks, and therefore no technical requirements regarding pipeline installation. There are no expectations that these will become available during the project lifetime. Mijnwater has his own technical requirements, which are built up in time. All infrastructure elements are subject to Dutch Building Code. Specific topics (e.g. energy performance, legionella) are covered by specific standards (NL-EU). All types of components have already been built by Mijnwater in the past. Permissions needed: Planning permission and environmental permit for civil works to install underground pipelines and basements. Has not already been applied for as the final pipeline route has not been defined. This will be applied for after the final pipeline design and route has been chosen by contractor, approximately Q2 Y1
Risks associated with the investment Description of the risks associated with the official approval of local/regional/national authorities, feasibility study required, procurement process to be applied, linked to the practical implementation phase, etc.
• Planning permissions: Risk Level Low; Mijnwater already have an extensive grid in Heerlen • Local/National authorities approval: Risk Level Low • Contractor Procurement: Risk Level low; existing relations and procedures • Energy Services: Risk Level low; Running business for 400 customers • Public acceptance: Risk Level Low • Suitable pipe route: Risk Level Low; well known area • Availability of waste heat: Risk level medium • Geophysical constraint delay: Risk Level low • Legislation Heatplan and heatlaw: Risk Level medium • Customer connections: Risk Level Medium • Medium risk can occur from Dutch Heat Law. If a township has a heatplan, which is political accepted, customers can be obligated to accept a connection on the DHC grid and natural gas connection is not mandatory. The city of Heerlen/Parkstad is still in the process of formulating their plan. This should be accomplished end 2016. Without plan individual customer might refuse a grid connection.

Main outputs

Please describe the project main outputs that will be delivered based on the activities carried out in this work package. For each project main output a programme output indicator should be chosen. Please note that they need to have the same measurement unit.

Project main output	Describe the project main output and its contribution to project sub-objectives	Quantify the contribution	Delivery month	Programme output indicator to which the project main output will contribute. Please check the Programme Manual for the obligatory output indicators.
		0.00	Mar-2020	2.01. Number of solutions facilitating the delivery of existing or emerging low carbon, energy or climate protection strategies

Target groups

Target groups per main project output	
Who will use the main outputs?	• local public authority • infrastructure and (public) service provider • enterprise, excluding SME • SME • General public
How will target groups be involved in the development of the project main outputs?	
Mijnwater BV works through The Parkstad Limburg regional cooperation (policy to gain CO2-neutrality in 2040) together delivering • creating new business in green technology, where a sustainable energy company is an important development • Topsector Knowledge and Innovation on Energy: input for the national transition to CO2-neutral, main role for heat pumps and DHC • Developing practical know how on innovative energy concepts; also financial, social and legal approach • Open University in Heerlen and University of Applied Sciences "Zuyd Hogeschool" to build a regional expertise centre around 4 DHC • Strategic partners for heat pumps and other components, development of advanced intelligence (monitoring, control) • Maintenance and services by SME, also for adding green technology (like solar PV) into the system • Developing and reinforcing the regional economy, where M€ 500 /a is spent on buying fossils, which can be transferred to local sustainable investments	

Activities

Please describe activities and deliverables within the work package				
Activity nr	Title		Start month	End month
I5.1	Feasibility: Preparation of works		Sep-2016	Jul-2017
Ph 1. Financing, contracting, licensing, initial design of: grid, building plants and building modifications. For each location energy and capacity needs are determined and combined to sector and cluster specifications. Contracts are closed with individual customers. Licences will be acquired. The draft design of the total area will be made, simulated and optimized for minimal costs, maximum Energy and CO2-saving.				
	Deliverable nr	Title	Target value	End month
	Deliverable I5.1.1	Design and optimization study on Heerlen cluster D DHC grid.	1.00	Jun-2017
	Report by Mijnwater and subcontractors. Exchange of expertise within consortium. Presenting an options appraisal and recommendations. Presenting formats for communication, contracting and business case calculation			
	Deliverable I5.1.2	Transnational Review of Business Case	1.00	Jul-2017
	4DHC Team and mentors review Business Case against 4DHC principles and provide written summary and recommendations.			
I5.2	Design: Procurement of works		Jul-2017	Mar-2018
Ph 2. Design, program of demands, procurement The initial feasibility studies will be translated to designs, program of demands and work descriptions for the several planned connections. Comparison of starting points with financial limits, technical options, areal planning, etc. Modifications of plans due to feasibility.				
	Deliverable nr	Title	Target value	End month
	Deliverable I5.2.1	Pre- and final design of infrastructure	1.00	Mar-2018
	Plans and technical description of works to be realised. Flow of for other locations taking examples of technical features and practical know how. Input for HeatNet Model and Evaluation WP.			
	Deliverable I5.2.2	Program of demands for several 4DHC components; KPI's for investments	1.00	Mar-2018
	Report by Mijnwater, with input/feedback from expertise within the consortium. Comprising demands, considerations and focus points.			
I5.3	Implementation: Realisation of works		Mar-2018	Nov-2019
Ph 3. Realisation, commissioning Set up of project management and teams of builders, suppliers, consultants and engineers for the sub-projects. The work will be contracted and realised top down from cluster basement to cluster grid to sector basements, sector grids and building plants/installations.				
	Deliverable nr	Title	Target value	End month
	Deliverable I5.3.1	Pre- and definitive designs of the infrastructure and connections.	1.00	Jun-2019
	There will be worked out detailed designs ready for procurement. Underpinning calculations for energy performance, capacities, costs, etc. will be finalised and modifications processed. Lessons learned will be kept up for evaluation and transnational cooperation.			
	Deliverable I5.3.2	Programme of works for realisation of building connections on DHC grid with waste heat and thermal storage	1.00	Nov-2019
	Realisation of technologies: • Clusterbasement • Thermal Buffer • Clusternet Connection to • Backbone • Cluster D • Multifunctional centre			
	Deliverable I5.3.3	Commissioning of network systems	1.00	Nov-2019
	Starting up operation, monitoring, control, administration, billing, service contracts with installers, complaint management, etc. Post completion commissioning will go on during the first year of operation.			

WP nr	Type	Title	Start month	End month	Budget
WP I6	investment	**Boulogne sur Mer Living Lab**	Sep-2016	Nov-2019	1 183 645.56

Partners involvement

Partner responsible	City of Boulogne-sur-Mer
Partners involved	City of Dublin Energy Management Agency Ltd, Codema. Role: LP
	CAP 2020, CAP 2020. Role: PP
	City of Kortrijk, Kortrijk. Role: PP
	City of Boulogne-sur-Mer, BsM. Role: PP
	University of Gent, UoG. Role: PP
	Amsterdam University of Applied Sciences, HvA. Role: PP
	Aberdeen City Council, ACC. Role: PP
	Centre for studies and expertise on Risks, Environment, Mobility, and Urban and Country Planning, CER. Role: PP

Investment summary

Please provide a description of the investment phases and technical specifications; if several partners are involved please specify who will do what. Note: Please elaborate if this investment will contribute to a project main output.
The local planning strategy has identified great development potential & aims to create a dynamic area in the city's southern District, with various new estates, cooling network and extension of the National Sea Centre Nausicaä. Therefore there is high potential for a DHC system where several buildings, namely a swimming pool, laboratories and Nausicaä, need great quantities of heat and cool but also produce loads of energy. Two DHC networks have been completed in 2016 in Boulogne-sur-Mer (BsM) by the city and Habitat du Littoral (HL). Though recent, the full benefits to residents of DHC is not being realised due to the disrepair of secondary networks. Investment in building energy management has been overlooked – a demonstration is needed to show the benefits. To join DHC networks and extend to the new area (waste energy/renewables/cooling network/connections - saving 1200t CO2 pa) raises technical and contractual challenges. HeatNet is needed to find solutions. Ph1 Feasibility. New network: Survey on buildings to connect; Preliminary study of possible pipe routes (route length, health and safety issues, traffic disruption); Site investigation (issues on site installation, geology, proximity of river Liane and Sea, environmental issues); Study on the potential of waste energy to be used from Nausicaä. Building energy management: Preliminary studies to assess various ways to improve secondary network; Preliminary studies on potential connection of domestic hot water to DHC. Ph2 Design. Design and routing (temperature, pressure, heat exchanger sizes, pipeline installation; Review of operational contract; Business Case (including review of impacts on public service delegation) Ph3 Implementation. Construction of pipelines, connections. Installation meters/controls for better energy management All decisions on this pilot investment will be subject to joint decision making of the HeatNet steering group.

Justification

Explain the need for this investment to achieve project objective and results.
This pilot was chosen specifically for HeatNet because Boulogne-sur-Mer (BsM) are planning to fight fuel poverty by extending existing DH networks and moving toward 4DHC, but face 4DHC knowledge and finance barriers. This pilot can positively contribute to the initial draft HeatNet Model through its established experience in providing low-carbon heat through recently built DH systems. BsM needs the guidance of the HeatNet model to progress the pilot by creating heat maps, optimising heat resources, demand side efficiency with DH, and integrating district cooling. When complete, this pilot will provide low-carbon low-cost heat to the area, and will feedback important lessons to HeatNet Model such as how to extend existing DH for 4DHC, incorporate district cooling, and improving supply & demand side efficiency. The end users are public sector buildings, but with future potential for businesses, social housing and private housing, and will benefit from expertise and reduced energy bills.

Location of the investment
The investments will be made in the urban area of Boulogne sur Mer, focussing on the river/seafront area.
NUTS 3 code
FR302
Ownership Who owns the site where the investment is located? Who will retain ownership of the investment after the end of the project? Who will take care of maintenance of the investment? How will this be done?
New network link belongs to the city who will retain ownership after the end of the project. ECOLIANE will take care of maintenance of investment within the frame of the operational contract which will be renegotiated in Ph 2 (regular maintenance and repairs, preventive and remedial maintenance in relation with all stakeholders). Secondary network and meters/controls belong to HL who will retain ownership after the end of the project. DALKIA will take care of maintenance of the investment (activation, adjustments of the secondary network, all repairs in substations, regular checks, and analysis of energy use).
Investment documentation Please list the main technical requirements and permissions (e.g. building permits) required for the investment according to the respective national legislation. Please indicate if they are already available and if not by when they can be expected.
Technical Requirements : There is no technical requirement per say but ADEME only provides funding when there is more than 50% of renewable energy. Permission needed : - Law on water documentation since the pipeline will be close to the river and sea - Planning permission once the route is known – answer 13 days after request - Private easement in case the future route goes in the private condominiums
Risks associated with the investment Description of the risks associated with the official approval of local/regional/national authorities, feasibility study required, procurement process to be applied, linked to the practical implementation phase, etc.
Planning permissions: Risk Level Low. Local/National authorities approval: Risk Level Low. Suitable pipe route: Risk Level Low. Geophysical constraint delay: Risk Level low. Procurement/PSD : Risk Level Medium. Disruption to Nausicäa Supply: Risk Level medium. Public acceptance: Risk Level High. Customer connections: Risk Level Medium. A medium level risk has been identified with respect to the financial, legal and technical impact this project will have on the current operational contract. A medium level risk has been identified with respect to Nausicäa end energy supply as Nausicäa is currently being fully renovated to welcome 1 000 000 tourists (today 600 000) and should be delivered in June 2016. The DHC extension depend on this end energy supply and any delay will impact it. A high level risk identified with respect to the private condominiums between current network and Nausicaä. They could refuse suggested route, fear poor DHC efficiency and cost. Owner engagement is planned

Main outputs

Please describe the project main outputs that will be delivered based on the activities carried out in this work package. For each project main output a programme output indicator should be chosen. Please note that they need to have the same measurement unit.

Project main output	Describe the project main output and its contribution to project sub-objectives	Quantify the contribution	Delivery month	Programme output indicator to which the project main output will contribute. Please check the Programme Manual for the obligatory output indicators.
		0.00	Nov-2019	2.01. Number of solutions facilitating the delivery of existing or emerging low carbon, energy or climate protection strategies

Target groups

Target groups per main project output	
Who will use the main outputs?	• local public authority • sectoral agency • infrastructure and (public) service provider • SME • General public
How will target groups be involved in the development of the project main outputs?	
Regular informative meetings will be held with all key stakeholders (the buildings planned to connect to the network). It is crucial for the investment to succeed to have private condominiums located on the future DHC route to be in the right conditions to connect to it, and engagement of owners is planned. All work carried out by HeatNet partners on promoting DHC and on finding incentives to connect will be helpful. Public buildings that will feed into the DHC (waste energy) will be tightly associated to the project through meetings, training and decision process. People connected or about to be connected need to be convinced and trained so that DHC efficiency can be coupled with a better management of energy use.	

Activities

Please describe activities and deliverables within the work package				
Activity nr	Title		Start month	End month
I6.1	Feasibility: Preliminary study on optimizing energy sources of DHC extension and pipe route options		Sep-2016	Mar-2017
Boulogne-sur-Mer has made great advances recently with DHC, including with innovations in waste heat recovery. It has also identified great potential for 4DHC, utilising waste energy and providing heat and cooling to commercial and residential premises – but only if existing and new networks can be integrated. Studies are required to test feasibility of implementation and essential stakeholders must be engaged and brought into a cooperative structure with a common plan.				
	Deliverable nr	Title	Target value	End month
	Deliverable I6.1.1	Business Case: Capitalise on Available Energy	0.00	Mar-2017
	Heat mapping study of energy needs and surpluses and heat optimization potential. Business Case.			
	Deliverable I6.1.2	Best Routes Options for DHC	0.00	Feb-2017
	A short report highlighting the methods to select best route option for DHC illustrated with case studies and focussed on particular projects (DHC near sea or river).			
	Deliverable I6.1.3	Agreements to connect	0.00	Mar-2017
	Negotiations with building managers regarding connections to the network, resulting in formal Agreements.			
	Deliverable I6.1.4	Transnational Review of Business Case	0.00	Mar-2017
	4DHC Team and mentors review Business Case against 4DHC principles and provide written summary and recommendations.			
I6.2	Design 1: Detailed design of primary and secondary network routes and connections, contract negotiations and reviews.		Nov-2016	Jun-2017
Detailed design will specify the routes of network investments, location and specification of connections. Operational contracts, and energy supply contracts will be created, reviewed (to accommodate network extension) and agreed.				
	Deliverable nr	Title	Target value	End month
	Deliverable I6.2.1	Heat supply contracts: serving the network and serving consumers	1.00	Jun-2017
	Two categories of contract will be developed: Contracts to supply energy to the network (eg Nausicäa); Contracts to supply energy to buildings. Includes report on lessons learned for energy supply agreements.			
	Deliverable I6.2.2	Technical design report	1.00	Jun-2017
	A technical design report will specify technical aspects or the primary and secondary network investments and ancillary equipment.			
I6.3	Design 2: Better Energy Management at the Secondary Network Level.		Nov-2016	Jun-2017
In Boulogne-sur-Mer DHC are not fully efficient due to old secondary networks. A large urban renewal scheme is about to be implemented in a part of the northern district where a DHC has been realised. A study on energy improvement in relation with DHC has to be realised: work improvements? Energy management systems? Sensors? Smart Meters? Possibility to connect domestic hot water to DHC? Options will be tested to demonstrate social benefits for energy bills. Negotiations with residents concerning new heat controls, and procurement of equipment will take place.				
	Deliverable nr	Title	Target value	End month
	Deliverable I6.3.1	Options for improved Energy Use and Management through secondary networks	1.00	Jun-2017
	Procure experts. A report specifying improvements to demonstration secondary network, including for heat meters/controls. Based on engagement with residents to understand needs, and training to optimise results of the trial. Evaluation of results.			
I6.4	Implementation: Delivery of improved DHC in Boulogne-sur-Mer		Mar-2017	Nov-2019
Based on all preliminary studies and increased knowledge on DHC thanks to Heatnet Partners, infrastructure work will take place to extend the Southern DHC (Investment 1) and improve secondary networks of the Northern DHC for an overall improvement (Investment 2). A key date is to bear in mind: June 2018 with the delivery of the new extended Nausicaä. Most of the DHC work will have to be carried out with respect to recovering end energy from this building.				
	Deliverable nr	Title	Target value	End month
	Deliverable I6.4.1	Installation of heat distribution infrastructure: connecting networks for 4DHC	1.00	Sep-2019
	Installation of insulated underground heat distribution pipes and ancillary equipment.			
	Deliverable I6.4.2	Improved energy management of Buildings connected to DHC	1.00	Sep-2019
	Improvements to secondary network made and energy controls installed and commissioned.			

Workplan summary

WP ID	Type and title	Start date	End date	Budget	Target
WP M	Project management	Sep-2016	Jul-2020	1 108 521.36	
M.1	activity - M.1	Sep-2016	Jul-2020		
M.1.1	deliverable - Project Management Plan and meetings		Jul-2020		6.00
M.1.2	deliverable - Internal communication		Jul-2020		1.00
M.1.3	deliverable - Activity reporting		Jul-2020		6.00
M.2	activity - M.2	Sep-2016	Jul-2020		
M.2.1	deliverable - Financial reports		Jul-2020		6.00
M.3	activity - M.3	Sep-2016	Jul-2020		
M.3.1	deliverable - Quality control		Jul-2020		1.00
M.3.2	deliverable - Risk Management Plan (RMP): development and implementation		Jul-2020		1.00
WP LT	Long Term	Sep-2016	Jan-2020	1 134 100.78	
LT.1	activity - LT.1	Sep-2016	Jan-2020		
LT.1.1	deliverable - Policy, legal and regulatory review. Lead: Energy Cities, with Aberdeen, BsM, Leiedal, Kortrijk, S. Dublin, HvA, CAP2020		Nov-2017		1.00
LT.1.2	deliverable - Spatial policy for 4DHC. Lead: HvA, with Plymouth, BsM, Kortrijk, S. Dublin, Cerema, 7Vents, Leiedal		Jul-2019		1.00
LT.1.3	deliverable - Set of 7 transition Roadmaps, for Dublin, Aberdeen, Plymouth, Boulogne sur Mer, Normandy, Kortrijk, Heerlen. Lead: Leiedal		Mar-2019		7.00
LT.1.4	deliverable - Main output: 4DHC Transition Guide. Lead: Codema, with 7Vents, Leiedal, HvA, Mijnwater, Plymouth, Cerema, UoG		Dec-2019		1.00
LT.2	activity - LT.2	Apr-2017	Oct-2018		
LT.2.1	deliverable - Business Case to Energy sector. Lead: CAP2020, with Aberdeen, Codema, UoG, Energy Cities		Oct-2018		1.00
LT.2.2	deliverable - Business Case to public sector. Lead: Codema, with 7Vents, Plymouth, BsM, Mijnwater, S.Dublin, Kortrijk, CAP2020, Energy Cities		Oct-2018		1.00
LT.2.3	deliverable - Case to energy consumers. Lead: 7Vents, with BsM, Aberdeen, Leiedal, S. Dublin		Oct-2018		1.00
LT.3	activity - LT.3	Sep-2016	Jan-2020		
LT.3.1	deliverable - Roll out strategy. Lead: Codema, with all PPs		Nov-2018		1.00
LT.3.2	deliverable - SME capacity building. Lead: CAP2020, with Energy Cities		Jan-2020		6.00
LT.3.3	deliverable - Capacity building workshops for public authorities. Lead: Energy Cities, with CAP2020, Codema, Cerema, HvA, UoG		Jan-2020		9.00
WP T2	Evaluation	Sep-2016	Oct-2019	532 730.63	
T2.1	activity - T2.1	Sep-2016	Apr-2017		
T2.1.1	deliverable - Evaluation Plan		Apr-2017		1.00
T2.2	activity - T2.2	Apr-2017	Jan-2018		
T2.2.1	deliverable - Recommendations: HeatNet Model		Jan-2018		1.00
T2.3	activity - T2.3	Jan-2018	May-2018		
T2.3.1	deliverable - Case study report cards		May-2018		10.00
T2.3.2	deliverable - Recommendations: HeatNet Model and Transition Roadmaps		May-2018		1.00
T2.3.3	deliverable - Barriers to implementation of 4DHC. Lead: HvA, with All PPs		May-2018		1.00
T2.4	activity - T2.4	Sep-2018	Oct-2019		

T2.4.1	deliverable - Output: GHG reduction targets through 4DHC replication in NWE		Oct-2019		1.00
WP T3	HeatNet Model	Sep-2016	Dec-2019	740 942.96	
T3.1	activity - T3.1	Sep-2016	Dec-2019		
T3.1.1	deliverable - 4DHC project tools. Lead: Cerema, with HvA, Codema, CAP2020, Leiedal, UoG		Dec-2019		3.00
T3.1.2	deliverable - Guidance on integrating 4DHC with energy efficiency retrofitting. Lead: Codema, with CAP2020, 7Vents, Cerema, Aberdeen, S.Dublin		Dec-2019		1.00
T3.1.3	deliverable - 4DHC Procurement Guide. Lead: Energy Cities, with CAP2020, Codema, Kortrijk, BsM		Dec-2019		1.00
T3.1.4	deliverable - 4DHC Technology Guide. Lead UoG, with Mijnwater BV, CAP2020		Dec-2019		1.00
T3.1.5	deliverable - 4DHC Guide to home and building energy management. Lead: 7Vents, with BsM, S.Dublin, Aberdeen		Dec-2019		1.00
T3.1.6	deliverable - 4DHC guide to Governance/Business Models. Lead: CAP2020, with Plymouth, Aberdeen, Leiedal, 7Vents, S.Dublin, BsM, Kortrijk		Dec-2019		1.00
T3.2	activity - T3.2	Sep-2016	Dec-2019		
T3.2.1	deliverable - Guide to financing 4DHC. Lead: Plymouth, with Codema, Mijnwater BV, CAP2020, UoG		Dec-2019		1.00
T3.2.2	deliverable - 4DHC Protocol for ICP. Lead: Plymouth, with Cerema, CAP2020, Mijnwater BV, UoG, Codema		Dec-2019		1.00
T3.3	activity - T3.3	Sep-2016	Dec-2019		
T3.3.1	deliverable - Main Output: HeatNet Model guide. Lead: Cerema, with all PPs		Dec-2019		1.00
WP I1	Plymouth Living Lab	Sep-2016	Nov-2019	1 541 087.91	
I1.1	activity - I1.1	Sep-2016	Jul-2017		
I1.1.1	deliverable - Business Case for the Heat connection to the Plymouth History Centre		Jun-2017		1.00
I1.1.2	deliverable - Business Case for wider city centre heat connections to buildings east and west of Plymouth University's Campus		Jul-2017		1.00
I1.1.3	deliverable - Transnational Review of Business Case		Jul-2017		1.00
I1.2	activity - I1.2	Sep-2016	Mar-2018		
I1.2.1	deliverable - Detailed design and procurement		Mar-2018		1.00
I1.2.2	deliverable - Heat supply agreement and related commercial documentation		Mar-2018		1.00
I1.3	activity - I1.3	Mar-2018	Nov-2019		
I1.3.1	deliverable - Procurement and delivery of the heat connection from the University's Heat Network to the History Centre		Nov-2019		1.00
WP I2	South Dublin Living Lab	Sep-2016	Nov-2019	1 025 426.00	
I2.1	activity - I2.1	Sep-2016	Apr-2017		
I2.1.1	deliverable - Preliminary Study of Options for 4DH site in Tallaght, South Dublin		Apr-2017		1.00
I2.1.2	deliverable - Transnational Review of Options Appraisal		Apr-2017		1.00
I2.2	activity - I2.2	Sep-2016	Mar-2017		
I2.2.1	deliverable - Preliminary Techno-Economic Design Options for 4DH Energy Centre		Mar-2017		1.00
I2.3	activity - I2.3	Apr-2017	Nov-2019		
I2.3.1	deliverable - Procurement and Delivery of Services for Final Site Investigations		Jun-2017		1.00
I2.3.2	deliverable - Procurement of DH Network and Energy Centre (Design Build Operate contract)		Jan-2018		1.00
I2.3.3	deliverable - DH Network Construction and Heat Exchanger Installation		Nov-2019		1.00
WP I3	Aberdeen Living Lab	Sep-2016	Nov-2019	726 347.50	

I3.1	activity - I3.1	Sep-2016	Jul-2017		
I3.1.1	deliverable - Feasibility Study		Jun-2017		1.00
I3.1.2	deliverable - Provide data on energy use and the type of energy contracts which are in place		Jun-2017		1.00
I3.1.3	deliverable - Transnational Review of Business Case		Jul-2017		1.00
I3.2	activity - I3.2	Sep-2016	Mar-2018		
I3.2.1	deliverable - Final design and consents		Mar-2018		1.00
I3.3	activity - I3.3	Mar-2018	Nov-2019		
I3.3.1	deliverable - Procure contractor		Dec-2018		1.00
I3.3.2	deliverable - Installation of mains pipework and ancillaries		Nov-2019		1.00
WP I4	Kortrijk Living Lab	Sep-2016	Nov-2019	1 428 859.50	
I4.1	activity - I4.1	Sep-2016	Jul-2017		
I4.1.1	deliverable - Feasibility study and business case.		Jun-2017		1.00
I4.1.2	deliverable - Transnational review of Business Case.		Jul-2017		1.00
I4.2	activity - I4.2	Jul-2017	Mar-2018		
I4.2.1	deliverable - Technical study with dossier ready for procurement		Mar-2018		1.00
I4.2.2	deliverable - Design study for the installation of the business structure (ESCO or other 'green heat' company model)		Mar-2018		1.00
I4.3	activity - I4.3	Mar-2018	Nov-2019		
I4.3.1	deliverable - Heat net pipes Stage 1: Campus Kortrijk Weide		Mar-2019		1.00
I4.3.2	deliverable - Heat network pipes Stage 2: connection towards UoG		Jun-2019		1.00
I4.3.3	deliverable - Heat production and management infrastructure		Aug-2019		1.00
WP I5	Heerlen Living Lab	Sep-2016	Nov-2019	1 607 530.04	
I5.1	activity - I5.1	Sep-2016	Jul-2017		
I5.1.1	deliverable - Design and optimization study on Heerlen cluster D DHC grid.		Jun-2017		1.00
I5.1.2	deliverable - Transnational Review of Business Case		Jul-2017		1.00
I5.2	activity - I5.2	Jul-2017	Mar-2018		
I5.2.1	deliverable - Pre- and final design of infrastructure		Mar-2018		1.00
I5.2.2	deliverable - Program of demands for several 4DHC components; KPI's for investments		Mar-2018		1.00
I5.3	activity - I5.3	Mar-2018	Nov-2019		
I5.3.1	deliverable - Pre- and definitive designs of the infrastructure and connections.		Jun-2019		1.00
I5.3.2	deliverable - Programme of works for realisation of building connections on DHC grid with waste heat and thermal storage		Nov-2019		1.00
I5.3.3	deliverable - Commissioning of network systems		Nov-2019		1.00
WP I6	Boulogne sur Mer Living Lab	Sep-2016	Nov-2019	1 183 645.56	
I6.1	activity - I6.1	Sep-2016	Mar-2017		
I6.1.1	deliverable - Business Case: Capitalise on Available Energy		Mar-2017		0.00
I6.1.2	deliverable - Best Routes Options for DHC		Feb-2017		0.00
I6.1.3	deliverable - Agreements to connect		Mar-2017		0.00
I6.1.4	deliverable - Transnational Review of Business Case		Mar-2017		0.00
I6.2	activity - I6.2	Nov-2016	Jun-2017		
I6.2.1	deliverable - Heat supply contracts: serving the network and serving consumers		Jun-2017		1.00
I6.2.2	deliverable - Technical design report		Jun-2017		1.00
I6.3	activity - I6.3	Nov-2016	Jun-2017		

I6.3.1	deliverable - Options for improved Energy Use and Management through secondary networks		Jun-2017		1.00
I6.4	activity - I6.4	Mar-2017	Nov-2019		
I6.4.1	deliverable - Installation of heat distribution infrastructure: connecting networks for 4DHC		Sep-2019		1.00
I6.4.2	deliverable - Improved energy management of Buildings connected to DHC		Sep-2019		1.00
WP C	Communication	Sep-2016	Jan-2020	493 993.29	
C.1	activity - C.1	Sep-2016	Jan-2017		
C.1.1	deliverable - Communication strategy		Jan-2017		1.00
C.1.2	deliverable - Dissemination feedback loop		Jan-2017		1.00
C.1.3	deliverable - Communication webinar with communication expert and all project partners		Jan-2017		1.00
C.2	activity - C.2	Sep-2016	Jan-2020		
C.2.1	deliverable - Maintenance and content development of all webpages		Jan-2020		1.00
C.2.2	deliverable - Webinars to promote HeatNet		Jan-2020		9.00
C.3	activity - C.3	Sep-2016	Jan-2020		
C.3.1	deliverable - HeatNet results and publication flyer		Oct-2019		1.00
C.3.2	deliverable - Publications in magazines		Jan-2020		10.00
C.4	activity - C.4	Sep-2016	Jan-2020		
C.4.1	deliverable - Presentations during existing workshops and conferences		Jun-2019		10.00
C.4.2	deliverable - Participants and conclusions of the final HeatNet conference in Brussels		Jan-2020		1.00

C. PARTNERSHIP

Who is in the partnership?

Describe the partnership and explain its relevance to achieve the project objective:

- Which types of organisation, from which territory, will be working together?
- How are the roles distributed? Who does that?

The partnership comprises a mix and breadth of key stakeholders in district heating networks. Among public authorities, Municipalities have a dual role of being a significant customer for renewable and low carbon heat, but also having a strategic role in creating the conditions for DH networks to succeed (spatial policy, Partnerships, Finance, etc). Housing providers (e.g Habitat du Littoral, Boulogne s/Mer; Aberdeen City Council), public or non-profit, have a strong interest in DH and are in a position to deliver DH projects. Energy companies, both private (e.g. Dalkia, Boulogne s/Mer) and not for profit (e.g. Aberdeen Heat and Power) manage infrastructure and make operational and investment decisions that influence Transition to 4DHC. These institutions are represented throughout the diverse pilot investments in this project, along with specialist contractors that have the expertise to design, finance and build schemes. Importantly, the project has a broad range of knowledge partners. Their role is to support the pilots investments and to capture learning from the project and package this into transferable guidance to enable replication. The project structure is designed to facilitate and encourage transnational sharing of knowledge and experience. Thus, in-country partnerships between partners (IE - Codema/S Dublin; FR - Cerema/BsM; B - Kortrijk/UoG/Leiedal; UK ACC/AH&P) are augmented through transnational mentoring relationships to gain full value of collective knowledge and experience; BsM+Kortijk+Aberdeen; Plymouth+Dublin+Mijnwater. A 4DHC Team comprising Cerema, HvA, UoG, Codema and CAP2020 will advise on design and implementation of Investments. Two non-profit partners will provide technical support during the development of local Roadmaps, Leiedal and 7Vents, both being expert in institutional capacity building and stakeholder engagement. Networks, Energy Cities and CAP2020, will engage with public authorities, and SMEs and enterprises to promote HeatNet outputs and to encourage their use and thus the replication of the HeatNet Model for long term dissemination. Investment partners are at widely different stages of transition to 4DHC. This is valuable in enabling us to understand the different routes to 4DHC. There are many starting points and many options, negating a one size fits all approach. This diversity will ensure guidance is fully transferable throughout NWE. The project has a strong focus on evaluation and is adopting a novel approach. Action Research is a cyclical process of 'doing, reviewing, and acting' on lessons learned. This enables transnational experience to be collated and fed back into each investment at key moments as they progress. The investments all follow a 3-phase structure to aid this process. The evaluation team, led by HvA and with Cerema, UoG and CAP2020, will gain an overview of experiences and channel this knowledge into HeatNet outputs. All partners will be involved in the process. There will be evaluation workshops alongside each partner meeting, as well as partner engagement in evaluation of the activities they lead. The Partnership has ability to influence policy through key relationships with Associated partners at local, regional and international level. 4DH Centre, Aalborg will advise, adding credibility and helping to promote outputs widely through its stakeholder and expert networks.

Stategic concept of the partnership

- What profiles of organisations does the project objective require for an efficient partnership?
- Where are these competencies in North-West Europe?
- How should roles be distributed? Who should do what?

The partnership is widely representative of NWE, representing 6 Member States and many of their different regions. Large and small municipalities are represented, themselves demonstrating a diversity of socio-economic status. Status of partners in relation to DHC is also diverse, some being amongst the most advanced in NWE (e.g. Heerlen/Mijnwater BV) and others yet to make progress in DHC implementation (e.g. Dublin/CODEMA). Public authorities, along with social housing providers (which are also represented in the project), are representative of the substantial public/semi-public market for DHC. It is through institutions of this type that catalytic schemes are most likely to be delivered, and the partnerships brokered that enable transition to 4DHC. Spatial Planning authorities have a key role to play to ensure energy grids are provided and to utilise their powers to ensure development takes place strategically so that energy grids join up and utilise low and zero carbon energy sources. Municipal and community energy agencies, supplying energy and implementing energy efficiency measures bring a commercial supply perspective to the partnership and enable the exploration of tensions between supply-side and demand-side actors, especially in relation to price competition (with fossil fuels/gas grids) and risk management. CAP2020 and associated regional business clusters, and Energy Cities Network and associated EU Heat Coalition provide an extensive network of public authorities and SMEs active in DHC. This provides the foundation of a long-term strategy for dissemination and implementation of project deliverables. Knowledge centres provide complementary expertise in smart city spatial development (Amsterdam University of Applied Sciences), project development and business cases (Cerema), and 4DHC systems (Gent University). Further, they provide vital expertise in analysis and evaluation. Pilot investments will take place in Plymouth, Aberdeen, Boulogne s/mer, Kortrijk, Heerlen, Dublin, engaging a diversity of local actors that will bring additional expertise. This diversity of contexts, actors, business models, risk management approaches, technologies, and scales is a vital aspect of the project. It is from thorough and carefully structured analysis of these cases, led by knowledge partners, that the transnational added value will be secured. The project will be led through the Project Steering Group in which all partners will participate and a dedicated WP leader steering group. Work packages (WPs) will be led by appropriate partners and all partners will participate in each. Thematic working groups will enable a concentrated effort on key issues. Project management and Longterm effect WPs will be led by the lead partner (Codema). Other WPs have been assigned as follows: • Communications: Energy Cities Network • HeatNet Model: Cerema • Evaluation: Amsterdam University of Applied Sciences. Our projected results are based on actual measures (baseline), planned HeatNet investments (end of project), and partner projections based on local plans and studies (5 and 10 year result), assuming no significant barriers. HeatNet aligns with the findings of EU and International reports, in particular District Energy in Cities (2015 UNEP), which specifically highlights the importance of business models and de-risking investments, and the vital role of local governments. HeatNet also connects with other EU wide initiatives promoting energy efficiency investment (ICP). Our strategy builds on previous Interreg projects, including ENO (NWE IIIb, the Minewater Project), GREAT (NWE IVb, business models for smart grid & renewables), MUSIC (NWE IVb, energy transition in urban areas), ARBOR and BIOenNW (NWE IVb, on energy from biomass), ACE (NWE IVb, smart energy cities). Also Stratego (No.IEE/13/650); EcoHeat4EU; RES H/C SPREAD. In many projects, HeatNet-partners were involved.

Who is associated to the project and assists the partnership?

If organisations have commited to helping the partnership reach the project objective, describe their competencies and how they will contribute to the project: • What geographic scope do they cover? • What political scope, if any, do they have? • How are they involved in the partnership?
We have made connections with the following strategic organisations and initiatives, through our PPs: The 4DH Research Centre has been developing 4th generation district heating since 2012 as one of the world's largest district heating research projects with expertise of 22 companies related to district heating and 8 universities in Denmark, Sweden, Croatia, and China. The project Heat Roadmap Europe is a part of 4DH and has produced 18 reports since 2012 quantifying the heating and cooling demands in Europe. 4DH will contribute their knowledge of DH in Europe and give advice at the draft stage of key project outputs. HeatNet will exchange data sets from the pilot projects and WP outputs with the 4DH centre. 4DH will attend relevant partner meetings. Heat Network Delivery Unit (HNDU) is part of the UK's Department of Energy and Climate Change (DECC). Its aim is to support Local Authorities through the development stages of heat networks, including heat mapping, energy master planning, feasibility studies and project development. The HNDU has confirmed interest in the HeatNet Model, and will collaborate with Heatnet by sharing its experiences and information of 200 DHC projects with local authorities across the UK. This includes developing the DH market from a delivery and financing perspective. Dublin City Council are one of four local authorities responsible for the Dublin region, responsible for an area of 206km2 with a population of 527,612 people, including the city centre. The council is in the process of planning a large district heating system linked to a waste incinerator. They will both feed in their findings of the planning and construction process of this system into the Heatnet Model and learn from the more advanced partners in the consortium. There is interest in the project from the highest level of city management. The Amsterdam Economic Board is responsible for the Economic Development of the Amsterdam Metropolitan Area, involving 32 cities in the provinces Noord-Holland and Flevoland. The region has 2.4 m inhabitants (1,1 million households). One of the Board's flagship programme is the multi – stakeholder, multi-year Heat project, in which the Board leads a consortium of 32 parties to reach agreement on the MRA Future Heat Grand Design; in which financing, governance, security of supply, fiscal and legislative implications, business models, offtake agreements and alike are discussed and concluded. This multi-stakeholder process management as well as the learnings are relevant for the HeatNet project. The Board will play an active role in connecting relevant stakeholders and disseminate knowledge developed in the region relevant for the Heatnet. The Investor Confidence Project (ICP) Europe unlocks access to financing for the building renovation market by standardizing how energy efficiency projects are developed, documented and measured. Certification is based on the ICP framework, which assembles best practices and existing technical standards into a set of Protocols that define a clear roadmap for developing projects, determining savings estimates, and documenting and verifying results. In this way project beneficiaries/developers have a standard they can use to source renovation projects they can believe in, and investors achieve reduced due diligence costs thanks to third-party review of each project before certification. The standardized approach to developing projects enables aggregation of projects into high performance portfolios. We have discussed with ICP the potential to bundle HeatNet outputs, along with other existing standards and codes of practice, into a 4DHC project Protocol. This would have the benefit of gaining access for 4DHC projects to an active international investment market. Further, low energy buildings are part of the 4DHC model, so this is a natural and beneficial relationship which we seek to strengthen. We will create further strategic relationships during the project

Project partners overview

Partner nr	Name of the organisation	Abbreviation	Total ERDF budget	Total budget	Country
1	City of Dublin Energy Management Agency Ltd	Codema	690 253.51	1 150 422.52	IRELAND
2	Plymouth City Council	PCC	1 045 401.35	1 742 335.59	UNITED KINGDOM
3	CAP 2020 asbl	CAP 2020	241 813.10	403 021.84	BELGIQUE-BELGIË
4	Stad Kortrijk	Kortrijk	809 401.50	1 349 002.50	BELGIQUE-BELGIË
5	Intercommunale Leiedal	Leiedal	179 850.00	299 750.00	BELGIQUE-BELGIË
6	Energy Cities	ECN	190 009.50	316 682.50	FRANCE
7	Ville de Boulogne-sur-Mer	BsM	846 293.76	1 410 489.60	FRANCE
8	Universiteit Gent	UoG	210 183.00	350 305.00	BELGIQUE-BELGIË
9	Hogeschool van Amsterdam	HvA	217 089.52	361 815.88	NEDERLAND
10	Les 7 Vents	L7V	215 100.39	358 500.66	FRANCE
11	Aberdeen City Council	ACC	608 485.50	1 014 142.50	UNITED KINGDOM
12	Mijnwater B.V.	Mijnwater	979 147.26	1 631 912.11	NEDERLAND
13	South Dublin County Council	SDCC	564 643.80	941 073.00	IRELAND
14	Centre d'études et d'expertise sur les risques, l'environnement, la mobilité et l'aménagement	CER	116 239.09	193 731.83	FRANCE

Partner description

Partner number	Partner role in the project	Partner status in the project	
1	LP	Confirmed participation	
Name of organisation in original language	City of Dublin Energy Management Agency Ltd		
Name of organisation in english	City of Dublin Energy Management Agency Ltd		
Abbreviation of organisation	Codema		
Legal status	private		
Profit	Non-profit		
Type of partner	SME		
Main address	Crown Alley, Templebar The Loft, 2 Dublin		
NUTS3 Code	IE021		
Legal representative	Gerald Wardell		
E-mail	gerry.wardell@codema.ie		
Telephone	0035317079818		
Contact person for the application	Declan McCormac		
e-Mail	dec.mccormac@codema.ie		
Telephone	0035317079818		
Co-financing source	ERDF	Co-financing rate (%)	60.00
VAT number	8263306O		
Is the organisation entitled to recover VAT based on national legislation for the activities implemented in the project?	Yes		
Partner requested advanced payments	No		
Organisation's core business			
Codema is the Dublin Energy Agency, representing the 4 Dublin local authorities. Codema works closely with all 4 local authorities on all energy related projects in the county. Codema is a not-for-profit limited company. Core competencies include project management, procurement, energy contracting, energy planning and policy, energy systems analysis, building energy management and energy auditing.			
Main role in the project			
Codema is LP and therefore leading the PM WP. Codema is supporting the S.Dublin investment, and leading the studies involved in this investment. Codema is leading the LT WP, leading the roll out strategy and case to the public sector deliverables. Codema will create the Transition Roadmap for Dublin as part of the LT WP. Codema is part of the 4DHC team, giving advice to all partners, involved in developing a guide to mapping in HeatNet Model tools, and involved throughout Evaluation WP.			
Activities in the project			

Partner number	Partner role in the project	Partner status in the project	
2	PP	Confirmed participation	
Name of organisation in original language	Plymouth City Council		
Name of organisation in english	Plymouth City Council		
Abbreviation of organisation	PCC		
Legal status	public		
Profit	Non-profit		
Type of partner	local public authority		
Main address	West Hoe Road Ballard House, PL1 3BJ Plymouth		
NUTS3 Code	UKK41		
Legal representative	David Shepperd		
E-mail	David.Shepperd@plymouth.gov.uk		
Telephone	+441752305403		
Contact person for the application	Alex Midlen		
e-Mail	alex.midlen@plymouth.gov.uk		
Telephone	+44 (0) 1752 304081		
Co-financing source	ERDF	Co-financing rate (%)	60.00
VAT number	GB 144 6758 45		
Is the organisation entitled to recover VAT based on national legislation for the activities implemented in the project?	Yes		
Partner requested advanced payments	No		
Organisation's core business			
Public authority with wide roles and responsibilities for local government, including spatial planning, economic development, social and environmental wellbeing. Includes leadership role in setting and achieving city-wide carbon emission reduction targets. Heat networks are a key element in Plymouth City Council's (PCC) plan for the decarbonisation of heat - 30% by 2020 in its compliance to the national target of an 80% reduction in greenhouse gas emissions by 2050.			
Main role in the project			
PCC will lead its investment and road map, and participate fully in project management and delivery. Specifically, PCC will lead on guidance for financing 4DHC and engagement with ICP and Protocol development. It will work with other partners on Spatial Policies for 4DHC, Barriers, Business models and governance, Roadmapping, Case to Public Sector, Transition Guide. PCC will mentor S Dublin and Mijnwater			
Subpartner 1	Name: University of Plymouth (UoP) Role: University of Plymouth (UoP) is partnering with PCC in the development of the city centre heat network. The design process must include both parties, as does the development of operational options, contractual agreements etc. The main part of the Investment will be delivered by PCC, but work will be required to connect to the UoP campus heat network. Budget: 50 000.00 EUR		
Activities in the project			

Partner number	Partner role in the project	Partner status in the project	
3	PP	Confirmed participation	
Name of organisation in original language	CAP 2020 asbl		
Name of organisation in english	CAP 2020		
Abbreviation of organisation	CAP 2020		
Legal status	private		
Profit	Non-profit		
Type of partner	business support organisation		
Main address	Rue Saucin , 66 5032 Les Isnes		
NUTS3 Code	BE352		
Legal representative	Déborah Depauw		
E-mail	Deborah.depauw@cap2020.be		
Telephone	+32 497 99 77 52		
Contact person for the application	Michel Heukmes		
e-Mail	michel.heukmes@cap2020.be		
Telephone	+32 475 76 57 60		
Co-financing source	ERDF	Co-financing rate (%)	60.00
VAT number	898.102.412		
Is the organisation entitled to recover VAT based on national legislation for the activities implemented in the project?	Yes		
Partner requested advanced payments	No		
Organisation's core business			
CAP 2020 is a cluster of Walloon building industry enterprises: Contractors, Architects, Producers and Suppliers of materials and equipment adopting the 2020 common European objective of massive energy consumption reductions. We have 3 priorities: renovation, eco-district and smart cities.			
Main role in the project			
CAP2020 will lead on Capacity building for SMEs and Governance/Business Models, and Case to the Energy Sector. Contributor to investment reviews. Organize roadshows for enterprises and public authorities, visits of projects and installations. Analyse business models and identify good practice. Disseminate information about public and private markets. Disseminate results to enterprises, public authorities and social housing companies (business models, technologies, financial models...).			
Activities in the project			

Partner number	Partner role in the project	Partner status in the project	
4	PP	Confirmed participation	
Name of organisation in original language	Stad Kortrijk		
Name of organisation in english	City of Kortrijk		
Abbreviation of organisation	Kortrijk		
Legal status	public		
Profit	Non-profit		
Type of partner	local public authority		
Main address	Grote Markt 1, 8500 Kortrijk		
NUTS3 Code	BE254		
Legal representative	Vincent Van Quickenborne		
E-mail	burgemeester@kortrijk.be		
Telephone	+3256278241		
Contact person for the application	Gerda Flo		
e-Mail	Gerda.flo@kortrijk.be		
Telephone	+3256278241		
Co-financing source	ERDF	Co-financing rate (%)	60.00
VAT number	BE207494678		
Is the organisation entitled to recover VAT based on national legislation for the activities implemented in the project?	Yes		
Partner requested advanced payments	No		
Organisation's core business			
City of Kortrijk, delivers a wide range of services to its citizens, numbering 75,000, including spatial planning, and promoting social, economic and environmental wellbeing. Kortrijk wants to initiate and facilitate processes to prepare the implementation of a 4th Generation District Heating (4GDH) in the city center, to start with a pilot project, further roll-out towards the (historic) city centrer and the new real estate developments. Kortrijk aims at tackling several barriers through developing business cases for setting up 4GDH&C, technical concept for a future-proofed 4GDH, communication, support with stakeholders and end-users, integration with local policies.			
Main role in the project			
Kortrijk will lead a pilot investment and development of a local Transition Roadmap. The city will also work with other partners fully in the Evaluation, identification of Barriers report, Spatial Policy report, Case to public sector, Policy and Regulatory Review, and Procurement Framework, and support the roll out strategy in peer to peer events. Kortrijk will mentor Aberdeen and BsM			
Activities in the project			

Partner number	Partner role in the project	Partner status in the project	
5	PP	Confirmed participation	
Name of organisation in original language	Intercommunale Leiedal		
Name of organisation in english	Intermunicipal Association Leiedal		
Abbreviation of organisation	Leiedal		
Legal status	public		
Profit	Non-profit		
Type of partner	local public authority		
Main address	President Kennedypark 10, 8500 Kortrijk		
NUTS3 Code	BE254		
Legal representative	Filip Vanhaeverbeke		
E-mail	Filip.vanhaverbeke@leiedal.be		
Telephone	+32 56 24 16 16		
Contact person for the application	Dominiek Vandewiele		
e-Mail	Dominiek.Vandewiele@leiedal.be		
Telephone	+32 56 24 16 16		
Co-financing source	ERDF	Co-financing rate (%)	60.00
VAT number	BE 0205 350 681		
Is the organisation entitled to recover VAT based on national legislation for the activities implemented in the project?	Yes		
Partner requested advanced payments	No		
Organisation's core business			
As a regional development agency, Leiedal is partner of local governments in spatial planning, regional development policies, business parks, housing policy, e-government, etc. Leiedal is a very experienced partner in EU and other funded projects. Leiedal has a special interest in spatial energy strategy, integrating 4GDH&C logics into a future-proofed energy system in Kortrijk and region.			
Main role in the project			
Support Kortrijk Roadmap with GIS-energy atlas (qualitative & quantitative demand & supply of energy, spatial development strategies, regional economic development plans, NZEB-renovation strategies, heritage plans...). Lead support to Investment partners on Road mapping. Contribute to Governance/Business Models, Transition Guide, Case to Consumers, HeatNet tools, and Policy & Regulatory Review.			
Activities in the project			

Partner number	Partner role in the project	Partner status in the project	
6	PP	Confirmed participation	
Name of organisation in original language	Energy Cities		
Name of organisation in english	Energy Cities		
Abbreviation of organisation	ECN		
Legal status	private		
Profit	Non-profit		
Type of partner	interest groups including NGOs		
Main address	2 Chemin de Palente , F25000 Besançon		
NUTS3 Code	FR431		
Legal representative	Claire Roumet		
E-mail	claire.roumet@energy-cities.eu		
Telephone	+33381653680		
Contact person for the application	Ian Turner		
e-Mail	ian.turner@energy-cities.eu		
Telephone	+33381653793		
Co-financing source	ERDF	Co-financing rate (%)	60.00
VAT number	FR 55379716712		
Is the organisation entitled to recover VAT based on national legislation for the activities implemented in the project?	Yes		
Partner requested advanced payments	No		

Organisation's core business

Energy Cities, is a European network representing approximately 1,000 Local Authorities in 30 countries. It has over 20 years of experience in European project coordination and management, communication, dissemination and transfer of experience and know-how on sustainable energy policies and practices across Europe, often through European projects focused on exchange between local authorities. Energy Cities also has experience in developing user friendly municipal-led communication campaigns.

Main role in the project

ECN will lead the Longterm WP which will develop an NWE-wide network for exchange of experience and promotion of DHC grids. Armed with tools derived from the project (for spatial analysis and policy, risk management, financial instruments, smart energy grids, governance etc) the network will support a step change in the rate of delivery of DHC in NWE. ECN will manage the project communications and dissemination through publications, seminars, workshops and conferences (eg EU Open Days 2019).

Activities in the project

Partner number	Partner role in the project	Partner status in the project	
7	PP	Confirmed participation	
Name of organisation in original language	Ville de Boulogne-sur-Mer		
Name of organisation in english	City of Boulogne-sur-Mer		
Abbreviation of organisation	BsM		
Legal status	public		
Profit	Non-profit		
Type of partner	local public authority		
Main address	Place Godefroy de Bouillon , 62200 Boulonge-sur-Mer		
NUTS3 Code	FR302		
Legal representative	Frédéric CUVILLIER CUVILLIER		
E-mail	ydie.leleu@ville-boulogne-sur-mer.fr		
Telephone	00 33 3 21 87 80 80		
Contact person for the application	Hélène EVRARD-HENON		
e-Mail	h.evrard@habitat-du-littoral.com		
Telephone	+33 3 21 10 04 35		
Co-financing source	ERDF	Co-financing rate (%)	60.00
VAT number	FR1X216201608		
Is the organisation entitled to recover VAT based on national legislation for the activities implemented in the project?	Partly	The city does not recover VAT; BUT It benefits from VAT compensation on investment (flexible rate depending on type of investment and year of investment)	
Partner requested advanced payments	No		
Organisation's core business			
The city of Boulogne sur Mer is a local authority whose mission is to answer the needs of the local population. It is responsible inter alia for civil status, urban planning and housing, schools and amenities, cultural, health and welfare and administrative police. Working on DHCs was obvious as a result of its urban planning competence to answer the population’s need with respect to heating, air quality and sustainability.			
Main role in the project			
Boulogne-sur-Mer will lead its Investment WP and local Road mapping. It will contribute fully to evaluation and roll out, identification of barriers, and specifically contribute to spatial policy tools, Cases to Public Sector and Consumer, Governance/Business Models, Policy and Regulatory Review and Procurement Framework. It will work with 7Vents and others on Guide to building energy management. BsM will mentor Aberdeen and Kortrijk			
Subpartner 1	Name: Habitat du Littoral Role: HL manages social housing. Both its patrimony and activities are diverse: 4500 collective housings and 1200 individual housings for more than 14 000 tenants i.e. people in social difficulties, private rented sectors, students and elderly. The city of Boulogne-sur-Mer and HL have developed two heat networks powered with alternative energy sources to reduce GHG emissions and decrease heating costs for households. Objectives : - Minimize the impact of price on inhabitants - Work with inhabitants for a better energy management - Incorporate touristic and economic areas Together with other stakeholders : - Work on the role of innovation in business models Budget: 499 893.00 EUR		
Activities in the project			

Partner number	Partner role in the project	Partner status in the project	
8	PP	Confirmed participation	
Name of organisation in original language	Universiteit Gent		
Name of organisation in english	University of Gent		
Abbreviation of organisation	UoG		
Legal status	public		
Profit	Non-profit		
Type of partner	higher education and research		
Main address	Graaf Karel de Goedelaan 5 , 8500 Kortijk		
NUTS3 Code	BE254		
Legal representative	Prof. dr. Martijn van den Broeck		
E-mail	martijn.vandenbroek@ugent.be		
Telephone	0032 468 12 07 14		
Contact person for the application	Prof. dr. Martijn van den Broeck		
e-Mail	martijn.vandenbroek@ugent.be		
Telephone	0032 468 12 07 14		
Co-financing source	ERDF	Co-financing rate (%)	60.00
VAT number	BE 248.015.142		
Is the organisation entitled to recover VAT based on national legislation for the activities implemented in the project?	Partly	For UGent the VAT is partly recoverable. VAT is only recoverable for purchase invoices when these can directly be related to a project with sales invoices that include VAT	
Partner requested advanced payments	No		
Organisation's core business			
UGent is a higher education and research institute and has nummerous departments , with relevant competences and experience to tackle barriers for implementation of 4GDH&C: thermodynamics, experience on industrial heat recoverey, district heating in housing sector, energy technologies, spatial planning, etc. Power-Link, the energy knowledge platform of Ghent University, addresses current and future energy challenges. UGent's campus Kortrijk is part of the pilot of the city of Kortrijk.			
Main role in the project			
UoG will be a core part of the Evaluation Team, contributing significantly to Evaluation WP. It will support Kortrijk investment. UoG lead 4DHC Techology Guide, provide technical support to Investments, and contribute to all core outputs. It will also contribute to Case to Energy Sector, HeatNet tools, Public Authority capacity building, Finance for 4DHC.			
Activities in the project			

Partner number	Partner role in the project	Partner status in the project	
9	PP	Confirmed participation	
Name of organisation in original language	Hogeschool van Amsterdam		
Name of organisation in english	Amsterdam University of Applied Sciences		
Abbreviation of organisation	HvA		
Legal status	public		
Profit	Non-profit		
Type of partner	higher education and research		
Main address	Weesperzijde 190, 1000BA Amsterdam		
NUTS3 Code	NL326		
Legal representative	Gerard van Haarlem		
E-mail	g.r.m.van.haarlem@hva.nl		
Telephone	+31205951443		
Contact person for the application	Prof.dr. Frank Suurenbroek		
e-Mail	f.suurenbroek@hva.nl		
Telephone	+31621157563		
Co-financing source	ERDF	Co-financing rate (%)	60.00
VAT number	815291152B01		
Is the organisation entitled to recover VAT based on national legislation for the activities implemented in the project?	Yes		
Partner requested advanced payments	No		

Organisation's core business

The Amsterdam based Amsterdam University of Applied Sciences (HvA) has around 50.000 students and 3.500 staff members. It has two primary processes: higher education and applied research. Prof. dr. Frank Suurenbroek is embedded in the multidisciplinary Research Programs of Urban Technology and Urban management. The program's research focuses on the development and implementation of innovative technology into practice, generally in close cooperation with private firms and public agencies.

Main role in the project

Knowledge partner, structuring of transnational learning; and valorisation of the project results by leading Evaluation process and leading all Evaluation WP outputs. Central role in Transition Guide, HeatNet Model Guide, and roll out strategy. Also contributing expertise to spatial policy guide, Policy and Regulatory Review, Public Authority capacity building.

Activities in the project

Partner number	Partner role in the project	Partner status in the project	
10	PP	Confirmed participation	
Name of organisation in original language	Les 7 Vents		
Name of organisation in english	7 Vents		
Abbreviation of organisation	L7V		
Legal status	private		
Profit	Non-profit		
Type of partner	SME		
Main address	Rue Gambetta 62A, 50200 COUTANCES		
NUTS3 Code	FR252		
Legal representative	Grégoire BOUCE		
E-mail	gregoire.bouce@7vents.fr		
Telephone	+33 2 33 19 00 10		
Contact person for the application	Florian Guillotte		
e-Mail	florian.guillotte@7vents.fr		
Telephone	+33 2 33 19 01 37		
Co-financing source	ERDF	Co-financing rate (%)	60.00
VAT number	FR48480216845		
Is the organisation entitled to recover VAT based on national legislation for the activities implemented in the project?	Yes		
Partner requested advanced payments	Yes		
Organisation's core business			
Les 7 Vents is a utility cooperative, a social enterprise that deals with energy, climate and sustainable development. We gather organisations and individuals around a not for profit goal. Our members and partners work together to create a sustainable framework for the development of sustainable systems, from micro-economics to heating systems			
Main role in the project			
7Vents will bring its expertise in capacity building and engagement in the energy sector to support partners in Road Mapping, working with Leiedal, and Leading Energy Management in Buildings guide, with a focus on public consumers in leading Case to Consumers, and Energy Efficiency/4DHC integration. In Normandy, 7Vents will undertake Road map studies, involving heat demand mapping, stakeholder engagement, barriers and delivery mechanisms, leading to a Road Map action plan for 4DHC Transition			
Activities in the project			

Partner number	Partner role in the project	Partner status in the project	
11	PP	Confirmed participation	
Name of organisation in original language	Aberdeen City Council		
Name of organisation in english	Aberdeen City Council		
Abbreviation of organisation	ACC		
Legal status	public		
Profit	Non-profit		
Type of partner	local public authority		
Main address	Broad Street Townhouse, AB10 1AQ Aberdeen		
NUTS3 Code	UKM50		
Legal representative	Fraser Bell		
E-mail	frbell@aberdeencity.gov.uk		
Telephone	01224 522084		
Contact person for the application	Amye Robinson		
e-Mail	ARobinson@aberdeencity.gov.uk		
Telephone	01224 522084		
Co-financing source	ERDF	Co-financing rate (%)	60.00
VAT number	663 726613		
Is the organisation entitled to recover VAT based on national legislation for the activities implemented in the project?	Yes		
Partner requested advanced payments	No		
Organisation's core business			
Aberdeen City Council is a Scottish Local Authority situated in the North East of Scotland. Our vision for Aberdeen is to be an ambitious, achieving, smart city and we will ensure all citizens are encouraged and supported to make their full contribution. ACC has a wider range of spatial planning and wellbeing responsibilities. Aberdeen Heat & Power was established by ACC to operate DHC networks.			
Main role in the project			
ACC will lead delivery of its investment and roadmap, and contribute fully to the Evaluation WP. Specifically it will contribute to spatial policy tools, Transition Guide, Case to Energy sector and Consumers, Governance/Business Models guide, Policy and Regulatory Review, Energy Efficiency/ 4DHC integrations, and Energy Management in Buildings guide. ACC will mentor BsM and Kortrijk			
Subpartner 1	Name: Aberdeen Heat and Power Role: To provide technical support and advise on feasibility/viability of options. Contribute to delivery planning. Budget: 44 400.00 EUR		
Activities in the project			

Partner number	Partner role in the project	Partner status in the project	
12	PP	Confirmed participation	
Name of organisation in original language	Mijnwater B.V.		
Name of organisation in english	Mijnwater B.V.		
Abbreviation of organisation	Mijnwater		
Legal status	private		
Profit	Non-profit		
Type of partner	SME		
Main address	Valkenburgerweg 177, 6419 AT Heerlen		
NUTS3 Code	NL423		
Legal representative	C.L.M. Hiddes		
E-mail	c.hiddes@mijnwater.com		
Telephone	+31628248548		
Contact person for the application	Herman Eijdems		
e-Mail	h.eijdems@mijnwater.com		
Telephone	+31628248548		
Co-financing source	ERDF	Co-financing rate (%)	60.00
VAT number	8531.90.008.B.01		
Is the organisation entitled to recover VAT based on national legislation for the activities implemented in the project?	Yes		
Partner requested advanced payments	No		

Organisation's core business

Mijnwater BV is the operating company of the Municipality of Heerlen to develop, exploit and innovate the low-exergy DHC-grid based on shallow geothermal energy. The Mijnwater project originated from a Interreg IIIb pilot and is developed to supply heat and cold to 150.000 m2 building area. Mijnwater has a mission to substantially contribute to the ambition of the region to become energy neutral.

Main role in the project

Mijnwater will lead its investment and roadmap study, and mentor partners S Dublin and Plymouth. It will make a full contribution to evaluation and main project outputs. Also contribute to Transition Guide, Case to Public Sector, 4DHC Technology Guide, Finance for 4DHC. Mijnwater is the most advanced 4DHC practitioner in the project and their expertise will play a central role in determining routes and goals for transition.

Activities in the project

Partner number	Partner role in the project	Partner status in the project	
13	PP	Confirmed participation	
Name of organisation in original language	South Dublin County Council		
Name of organisation in english	South Dublin County Council		
Abbreviation of organisation	SDCC		
Legal status	public		
Profit	Non-profit		
Type of partner	local public authority		
Main address	County Architects, County Hall, Tallaght , D24 Dublin		
NUTS3 Code	IE021		
Legal representative	Eddie Conroy		
E-mail	econroy@sdcoco.ie		
Telephone	0035314149000		
Contact person for the application	Eddie Conry		
e-Mail	econroy@sdcoco.ie		
Telephone	0035314149000		
Co-financing source	ERDF	Co-financing rate (%)	60.00
VAT number	9509809p		
Is the organisation entitled to recover VAT based on national legislation for the activities implemented in the project?	No		
Partner requested advanced payments	No		
Organisation's core business			
South Dublin County Council are the public sector local authority for the municipality area of South Dublin. The municipality area has a population of 265,205 with a total housing stock of nearly 100,000. The council's main responsibility is the governance of services for the municipality area. The council are part of the Covenant of Mayors cities and have committed to 20% emission reductions by 2020.			
Main role in the project			
SDCC will lead for S Dublin investment, working closely with Codema on this pilot, and with the 4DHC team for advice throughout. SDCC will be involved throughout the Evaluation WP, giving interviews, KPIs and feedback on all pilot activities. SDCC will contribute to the LT WP helping Codema to create the Dublin Transition Roadmap & disseminate all HeatNet outputs locally. Also contribute to: Governance and Business Cases, Policy reviews/tools, EE/4DHC Integration. Mentoring PCC and Mijnwater			
Activities in the project			

Partner number	Partner role in the project	Partner status in the project	
14	PP	Confirmed participation	
Name of organisation in original language	Centre d'études et d'expertise sur les risques, l'environnement, la mobilité et l'aménagement		
Name of organisation in english	Centre for studies and expertise on Risks, Environment, Mobility, and Urban and Country Planning		
Abbreviation of organisation	CER		
Legal status	public		
Profit	Non-profit		
Type of partner	local public authority		
Main address	Rue Jean BART, CS20275 4 ter, 59019 LILLE		
NUTS3 Code	FR301		
Legal representative	Stéphane COUDERT		
E-mail	stephane.coudert@cerema.fr		
Telephone	003320496000		
Contact person for the application	Sébastien DELHOMELLE		
e-Mail	Sebastien.delhomelle@cerema.fr		
Telephone	003320496000		
Co-financing source	ERDF	Co-financing rate (%)	60.00
VAT number	FR94130018310		
Is the organisation entitled to recover VAT based on national legislation for the activities implemented in the project?	Partly	Only one part of the cerema's work are for concurential sector, the other one is for the French environment ministry	
Partner requested advanced payments	No		
Organisation's core business			
Placed under the joint supervision of the french ministry for Ecology, Sustainable Development and Energy and the french ministry for Regional Equality and Housing, Cerema is a resource centre for scientific and technical expertise, in support of the definition, implementation and evaluation of public policies, carried by national and local authorities. The Cerema has a great experience in research projects enhancement, being involved in production, expertise and test activities.			
Main role in the project			
Cerema will Lead the HeatNet Model WP and non technical guide to 4DHC - produce a tool to compare, from an economic point of view, DHC with conventional heating solutions, Develop (with Codema) a heat mapping tool, Provide a bilateral support to BsM. Cerema provides core contribution to Evaluation WP, and contributes to spatial tools, Policy and Regulatory Review, Transition Guide, Energy Efficiency/4DHC integration guide, Public Authority capacity building, 4DHC Finance guide.			
Activities in the project			

D. Partner Budget

Name of partner organisation	City of Dublin Energy Management Agency Ltd
Partner ID	1
Legal status	private
Type of partner	SME
Co-financing source	ERDF
Outside (the Union part of) the programme area	No

Partner Budget		
	Amount	**Co-financing Rate**
Programme co-financing	690 253.80	60.00
Partner contribution	460 168.72	
Partner total eligible budget	1 150 422.52	

Origin of partner contribution (indicative)			
Source of contribution	**Legal status**	**% of total partner contribution**	**Amount**
City of Dublin Energy Management Agency Ltd	private	100.00 %	460 169.01
Sub-total public contribution		0.00 %	0.00
Sub-total private contribution		100.00 %	460 169.01
Total		%	460 169.01
Partner total target value			460 168.72

In-kind contribution	
Is there any in-kind contribution included in the project budget for this partner?	no

Partner budget - breakdown per budget line (indicative)

Staff costs	
Are you using the flat rate for staff costs?	No
Project management - WPM	495 900.00
Long Term - WPLT	128 250.00
Evaluation - WPT2	22 800.00
HeatNet Model - WPT3	62 700.00
Plymouth Living Lab - WPI1	0.00
South Dublin Living Lab - WPI2	96 900.00
Aberdeen Living Lab - WPI3	0.00
Kortrijk Living Lab - WPI4	0.00
Heerlen Living Lab - WPI5	0.00
Boulogne sur Mer Living Lab - WPI6	0.00
Communication - WPC	45 600.00
Total:	852 150.00

Staff costs			Project management - WPM			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
Full-time	2 Full Time Equivalent Project Manager, Project Co-Ordinator, Financial and Communications Manager @ a monthly rate of €5,700 each	month	Period 1	6.00	5 700.00	34 200.00
	2 Full Time Equivalent Project Manager, Project Co-Ordinator, Financial and Communications Manager @ a monthly rate of €5,700 each	month	Period 2	24.00	5 700.00	136 800.00
	2 .08 Full Time Equivalent Project Manager, Project Co-Ordinator, Financial and Communications Manager @ a monthly rate of €5,700 each	month	Period 3	25.00	5 700.00	142 500.00
	2.5 Full Time Equivalent Project Manager, Project Co-Ordinator, Financial and Communications Manager @ a monthly rate of €5,700 each	month	Period 4	32.00	5 700.00	182 400.00
					Total	495 900.00

Staff costs			Long Term - WPLT			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
Full-time		month	Period 1	1.00	0.00	0.00
	Creation of the South Dublin 4DHC Transition Roadmap, which involves 4DH feasiblity studies. Report.	month	Period 2	1.00	5 700.00	5 700.00
	Help to create business models which are attractive for ESCo's & energy sector and public sector. Creation of rollout strategy for HeatNet replication. Creation of business case for LAs, incl. risk minimisation tools, and case studies of existing models.	month	Period 3	10.00	5 700.00	57 000.00
	A how-to guide to making a transition roadmap to 4DHC, what needs to be analysed, how to implement etc.	month	Period 4	11.50	5 700.00	65 550.00
					Total	128 250.00

Staff costs			Evaluation - WPT2			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
Full-time		month	Period 1	1.00	0.00	0.00
	Feedback to Amsterdam on Pilot activities and establishing KPIs for the SDCC pilot	month	Period 2	2.00	5 700.00	11 400.00
		month	Period 3	0.00	5 700.00	0.00
	Feedback to Amsterdam on Pilot activities and establishing KPIs for the SDCC pilot	month	Period 4	2.00	5 700.00	11 400.00
					Total	22 800.00

Staff costs			HeatNet Model - WPT3			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
Full-time		month	Period 1	1.00	0.00	0.00
		month	Period 2	1.00	0.00	0.00
	Input into content of guide; 4DHC design, finance, operational characteristics	month	Period 3	5.00	5 700.00	28 500.00
	Input into non-technical guide, creation of mapping guide with Amsterdam & Cerema. Input into content of guide; 4DHC design, finance, operational characteristics . Guide on Integrating Energy Efficiency and 4DHC	month	Period 4	6.00	5 700.00	34 200.00
					Total	62 700.00

Staff costs			Plymouth Living Lab - WPI1			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
			Period 1	1.00	0.00	0.00
			Period 4	1.00	0.00	0.00
			Period 2	1.00	0.00	0.00
			Period 3	1.00	0.00	0.00
					Total	0.00

Staff costs			South Dublin Living Lab - WPI2			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
Full-time		month	Period 1	1.00	0.00	0.00
	Preliminary Study of Options for 4DH site in Tallaght, South Dublin .	month	Period 2	5.00	5 700.00	28 500.00
	Preliminary Techno-Economic Design Options for 4DH Energy Centre Procurement and Delivery of Services for Final Site Investigations,	month	Period 3	6.00	5 700.00	34 200.00
	Procurement and Delivery of Services for Final Site Investigations, DH Network Construction and Heat Exchanger Installation. Procurement of Services for DH Energy Centre	month	Period 4	6.00	5 700.00	34 200.00
					Total	96 900.00

Staff costs			Aberdeen Living Lab - WPI3			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
			Period 4	1.00	0.00	0.00
			Period 1	1.00	0.00	0.00
			Period 2	1.00	0.00	0.00
			Period 3	1.00	0.00	0.00
					Total	0.00

Staff costs			Kortrijk Living Lab - WPI4			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
			Period 4	1.00	0.00	0.00
			Period 1	1.00	0.00	0.00
			Period 2	1.00	0.00	0.00
			Period 3	1.00	0.00	0.00
					Total	0.00

Staff costs			Heerlen Living Lab - WPI5			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
			Period 4	1.00	0.00	0.00
			Period 1	1.00	0.00	0.00
			Period 2	1.00	0.00	0.00
			Period 3	1.00	0.00	0.00
					Total	0.00

Staff costs			Boulogne sur Mer Living Lab - WPI6			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
			Period 4	1.00	0.00	0.00
			Period 1	1.00	0.00	0.00
			Period 2	1.00	0.00	0.00
			Period 3	1.00	0.00	0.00
					Total	0.00

Staff costs			Communication - WPC			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
Full-time	Input into Comms Strategy & ensuring strategy clearly outlines publicity requirements by INTERREG	month	Period 1	1.00	5 700.00	5 700.00
	Contributing to bulletin board, reporting on progress of comms tasks and liaising with WP leader. Participation in webinar and provide input to final adjustment of comms strategy	month	Period 2	2.00	5 700.00	11 400.00
	Regularly updating content on Codema's website and providing content for INTERREG page, regularly contribute to social media accounts.Participate in EU webinars & help organise nationa/English language webinars. Provide input into content of publications	month	Period 3	2.00	5 700.00	11 400.00
	Assist WP leader with organisation, promote final conference locally and publicise project.	month	Period 4	3.00	5 700.00	17 100.00
					Total	45 600.00

Office and administration costs - real costs	
Are you using the flat rate for office and administration costs?	Yes
Flat rate percentage:	15.00 %
Project management - WPM	74 385.00
Long Term - WPLT	19 237.50
Evaluation - WPT2	3 420.00
HeatNet Model - WPT3	9 405.00
Plymouth Living Lab - WPI1	0.00
South Dublin Living Lab - WPI2	14 535.00
Aberdeen Living Lab - WPI3	0.00
Kortrijk Living Lab - WPI4	0.00
Heerlen Living Lab - WPI5	0.00
Boulogne sur Mer Living Lab - WPI6	0.00
Communication - WPC	6 840.00
Total:	127 822.50

Travel and accommodation		Project management - WPM			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	0.00	0.00	0.00
2 Staff members for 2 partner meetings @ 600 per Staff Member 2 Staff Members for Aalborg @ 500 per staff member for 1 meeting		Period 2	6.00	566.67	3 400.02
2 Staff members for 2 partner meetings @ 600 per Staff Member 2 Staff Members for Aalborg @ 500 per staff member for 2 meetings		Period 3	8.00	550.00	4 400.00
2 Staff members for 2 partner meetings @ 600 per Staff Member 2 Staff Members for Aalborg @ 500 per staff member for 2 meetings		Period 4	8.00	550.00	4 400.00
				Total	12 200.02

Travel and accommodation		Long Term - WPLT			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
		Period 2	1.00	0.00	0.00
		Period 3	1.00	0.00	0.00
6 Partner / Observer visits and 4 study trip travel expenses @ 600 euro per person. 10 people in total		Period 4	10.00	600.00	6 000.00
				Total	6 000.00

Travel and accommodation		Evaluation - WPT2			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
				Total	0.00

Travel and accommodation		HeatNet Model - WPT3			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
				Total	0.00

Travel and accommodation		Plymouth Living Lab - WPI1			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
				Total	0.00

Travel and accommodation		Communication - WPC			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
				Total	0.00

External expertise and services		Project management - WPM			
Description	Unit type	Period	No. of units	Price per unit	Total
1 Kick-off Partner Meeting in Dublin	Partner Meeting	Period 1	1.00	5 000.00	5 000.00
2 FLC audits for LP and 2 FLC audits for Partnership at a global level		Period 2	4.00	750.00	3 000.00
2 FLC audits for LP and 2 FLC audits for Partnership at a global level		Period 3	4.00	750.00	3 000.00
2 FLC audits for LP and 2 FLC audits for Partnership at a global level and a spot check at circa €2,000		Period 4	5.00	1 000.00	5 000.00
				Total	16 000.00

External expertise and services		Long Term - WPLT			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
		Period 2	1.00	0.00	0.00
		Period 3	1.00	0.00	0.00
Expert support to develop the HeatNet Model into standards/protocols within the ICP framework for Energy Efficiency Investment tools @ €50k Creation of business case for LA's and delivery of training locally @ €5k		Period 4	55.00	1 000.00	55 000.00
				Total	55 000.00

External expertise and services		Evaluation - WPT2			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 4	1.00	0.00	0.00
				Total	0.00

External expertise and services		HeatNet Model - WPT3			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
		Period 4	1.00	0.00	0.00
				Total	0.00

External expertise and services		Plymouth Living Lab - WPI1			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 4	1.00	0.00	0.00
				Total	0.00

External expertise and services		South Dublin Living Lab - WPI2			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
2 Procurement Advice days @ €800 and 5 Feasability Consultation days @ 800		Period 2	7.00	800.00	5 600.00
2 Procurement Advice days @ €800 and 5 Feasability Consultation days @ 800		Period 3	7.00	800.00	5 600.00
1 Procurement Advice day @ €800 and 2.5 Feasability Consultation days @ 800		Period 4	3.50	800.00	2 800.00
				Total	14 000.00

External expertise and services		Aberdeen Living Lab - WPI3			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 4	1.00	0.00	0.00
				Total	0.00

External expertise and services		Kortrijk Living Lab - WPI4			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 4	1.00	0.00	0.00
				Total	0.00

External expertise and services		Heerlen Living Lab - WPI5			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 4	1.00	0.00	0.00
				Total	0.00

External expertise and services		Boulogne sur Mer Living Lab - WPI6			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 4	1.00	0.00	0.00
				Total	0.00

External expertise and services		Communication - WPC			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
		Period 2	1.00	0.00	0.00
Digital Promotion of HeatNet local actions, Advertising of HeatNet in specialised publication, Local seminar on DH, Design of promotional case study / brochure, Printing.		Period 3	5.00	1 750.00	8 750.00
Translation Costs for Partnership 5 reports & Final Conference @ €20k Final conference cost @ €20k Design and Print costs for 5 reports @ €18.5k. HeatNet Results, Evaluation Report, Transition Roadmap, 4DHC Non-Technical Guide, HeatNet Model Guide		Period 4	8.00	7 312.50	58 500.00
				Total	67 250.00

Equipment		Project management - WPM			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
		Period 2	1.00	0.00	0.00
		Period 3	1.00	0.00	0.00
		Period 4	1.00	0.00	0.00
				Total	0.00

Equipment		HeatNet Model - WPT3			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
				Total	0.00

Infrastructure and works		Project management - WPM			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
		Period 2	1.00	0.00	0.00
		Period 3	1.00	0.00	0.00
		Period 4	1.00	0.00	0.00
				Total	0.00

Infrastructure and works		Long Term - WPLT			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 4	1.00	0.00	0.00
				Total	0.00

Infrastructure and works		Evaluation - WPT2			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 4	1.00	0.00	0.00
				Total	0.00

Infrastructure and works		HeatNet Model - WPT3			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
		Period 4	1.00	0.00	0.00
				Total	0.00

Infrastructure and works		Plymouth Living Lab - WPI1			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 4	1.00	0.00	0.00
				Total	0.00

Infrastructure and works		Communication - WPC			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 4	1.00	0.00	0.00
				Total	0.00

Net Revenue		Project management - WPM			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
				Total	0.00

Net Revenue		HeatNet Model - WPT3			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
				Total	0.00

#printPartnerSumBudget($partner)

Name of partner organisation	Plymouth City Council
Partner ID	2
Legal status	public
Type of partner	local public authority
Co-financing source	ERDF
Outside (the Union part of) the programme area	No

Partner Budget		
	Amount	**Co-financing Rate**
Programme co-financing	1 045 401.60	60.00
Partner contribution	696 933.99	
Partner total eligible budget	1 742 335.59	

Origin of partner contribution (indicative)

Source of contribution	Legal status	% of total partner contribution	Amount
Plymouth City Council	public	100.00 %	696 934.24
Sub-total public contribution		100.00 %	696 934.24
Sub-total private contribution		0.00 %	0.00
Total		%	696 934.24
Partner total target value			696 933.99

In-kind contribution	
Is there any in-kind contribution included in the project budget for this partner?	no

Partner budget - breakdown per budget line (indicative)

Staff costs	
Are you using the flat rate for staff costs?	Yes
Flat rate amount:	20.00
Project management - WPM	2 015.20
Long Term - WPLT	16 500.00
Evaluation - WPT2	0.00
HeatNet Model - WPT3	14 208.00
Plymouth Living Lab - WPI1	250 583.40
South Dublin Living Lab - WPI2	0.00
Aberdeen Living Lab - WPI3	0.00
Kortrijk Living Lab - WPI4	0.00
Heerlen Living Lab - WPI5	0.00
Boulogne sur Mer Living Lab - WPI6	0.00
Communication - WPC	0.00
Total:	283 306.60

Office and administration costs - real costs	
Are you using the flat rate for office and administration costs?	Yes
Flat rate percentage:	15.00 %
Project management - WPM	302.28
Long Term - WPLT	2 475.00
Evaluation - WPT2	0.00
HeatNet Model - WPT3	2 131.20
Plymouth Living Lab - WPI1	37 587.51
South Dublin Living Lab - WPI2	0.00
Aberdeen Living Lab - WPI3	0.00
Kortrijk Living Lab - WPI4	0.00
Heerlen Living Lab - WPI5	0.00
Boulogne sur Mer Living Lab - WPI6	0.00
Communication - WPC	0.00
Total:	42 495.99

Travel and accommodation		Project management - WPM			
Description	Unit type	Period	No. of units	Price per unit	Total
average cost for a two day, two night visit to a partner region for two people		Period 1	1.00	1 268.00	1 268.00
average cost for a two day, two night visit to a partner region for two people		Period 2	2.00	1 268.00	2 536.00
average cost for a two day, two night visit to a partner region for two people		Period 3	2.00	1 268.00	2 536.00
average cost for a two day, two night visit to a partner region for two people		Period 4	2.00	1 268.00	2 536.00
				Total	8 876.00

Travel and accommodation		Long Term - WPLT			
Description	Unit type	Period	No. of units	Price per unit	Total
Travel costs included in Project Management WP budget		Period 1	1.00	0.00	0.00
Travel costs included in Project Management WP budget		Period 2	1.00	0.00	0.00
Travel costs included in Project Management WP budget		Period 3	1.00	0.00	0.00
Travel costs included in Project Management WP budget		Period 4	1.00	0.00	0.00
				Total	0.00

Travel and accommodation		Evaluation - WPT2			
Description	Unit type	Period	No. of units	Price per unit	Total
Travel costs included in Project Management WP budget		Period 1	1.00	0.00	0.00
Travel costs included in Project Management WP budget		Period 2	1.00	0.00	0.00
Travel costs included in Project Management WP budget		Period 3	1.00	0.00	0.00
Travel costs included in Project Management WP budget		Period 4	1.00	0.00	0.00
				Total	0.00

Travel and accommodation		HeatNet Model - WPT3			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
visit to partners to access knowledge on 4DHC networks and related business models		Period 2	2.00	634.00	1 268.00
visit to partners to access knowledge on 4DHC networks and related business models		Period 3	2.00	634.00	1 268.00
visit to partners to access knowledge on 4DHC networks and related business models		Period 4	2.00	634.00	1 268.00
				Total	3 804.00

Travel and accommodation		Plymouth Living Lab - WPI1			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
				Total	0.00

Travel and accommodation		South Dublin Living Lab - WPI2			
Description	Unit type	Period	No. of units	Price per unit	Total
Travel costs included in Project Management WP budget		Period 1	1.00	0.00	0.00
Travel costs included in Project Management WP budget		Period 2	1.00	0.00	0.00
Travel costs included in Project Management WP budget		Period 3	1.00	0.00	0.00
Travel costs included in Project Management WP budget		Period 4	1.00	0.00	0.00
				Total	0.00

Travel and accommodation		Aberdeen Living Lab - WPI3			
Description	Unit type	Period	No. of units	Price per unit	Total
Travel costs included in Project Management WP budget		Period 1	1.00	0.00	0.00
Travel costs included in Project Management WP budget		Period 2	1.00	0.00	0.00
Travel costs included in Project Management WP budget		Period 3	1.00	0.00	0.00
Travel costs included in Project Management WP budget		Period 4	1.00	0.00	0.00
				Total	0.00

Travel and accommodation		Kortrijk Living Lab - WPI4			
Description	Unit type	Period	No. of units	Price per unit	Total
Travel costs included in Project Management WP budget		Period 1	1.00	0.00	0.00
		Period 2	1.00	0.00	0.00
Travel costs included in Project Management WP budget		Period 3	1.00	0.00	0.00
Travel costs included in Project Management WP budget		Period 4	1.00	0.00	0.00
				Total	0.00

Travel and accommodation		Heerlen Living Lab - WPI5			
Description	Unit type	Period	No. of units	Price per unit	Total
Travel costs included in Project Management WP budget		Period 1	1.00	0.00	0.00
Travel costs included in Project Management WP budget		Period 2	1.00	0.00	0.00
Travel costs included in Project Management WP budget		Period 3	1.00	0.00	0.00
Travel costs included in Project Management WP budget		Period 4	1.00	0.00	0.00
				Total	0.00

Travel and accommodation		Boulogne sur Mer Living Lab - WPI6			
Description	Unit type	Period	No. of units	Price per unit	Total
Travel costs included in Project Management WP budget		Period 1	1.00	0.00	0.00
Travel costs included in Project Management WP budget		Period 2	1.00	0.00	0.00
Travel costs included in Project Management WP budget		Period 3	1.00	0.00	0.00
Travel costs included in Project Management WP budget		Period 4	1.00	0.00	0.00
				Total	0.00

Travel and accommodation		Communication - WPC			
Description	Unit type	Period	No. of units	Price per unit	Total
Travel costs included in Project Management WP budget		Period 1	1.00	0.00	0.00
Travel costs included in Project Management WP budget		Period 2	1.00	0.00	0.00
Travel costs included in Project Management WP budget		Period 3	1.00	0.00	0.00
Travel costs included in Project Management WP budget		Period 4	1.00	0.00	0.00
				Total	0.00

External expertise and services		Project management - WPM			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
		Period 2	1.00	0.00	0.00
		Period 3	1.00	0.00	0.00
		Period 4	1.00	0.00	0.00
				Total	0.00

External expertise and services		Long Term - WPLT			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
total of contract payments expected for: Heat masterplan for the city from 4DHC persective; New housing heat network study to provide policy evidence		Period 2	1.00	41 250.00	41 250.00
total of contract payments expected for: Heat masterplan for the city from 4DHC persective; New housing heat network study to provide policy evidence		Period 3	1.00	41 250.00	41 250.00
		Period 4	1.00	0.00	0.00
				Total	82 500.00

External expertise and services		Evaluation - WPT2			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 2	1.00	0.00	0.00
				Total	0.00

External expertise and services		HeatNet Model - WPT3			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
Total contract payments expected for: 4DHC Heat masterplanning study, citywide; Re-evaluation of DHC project with HeatNet Model; 4DHC feasibility study for Energy from Waste Plant.		Period 2	1.00	33 618.00	33 618.00
Total contract payments expected for: 4DHC Heat masterplanning study, citywide; Re-evaluation of DHC project with HeatNet Model; 4DHC feasibility study for Energy from Waste Plant.		Period 3	1.00	33 618.00	33 618.00
		Period 4	1.00	0.00	0.00
				Total	67 236.00

External expertise and services		Plymouth Living Lab - WPI1			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
Costs for: Project Development including business case, commercial model, procurement strategy and support; Client Engineer Role, pre- & construction period; Procurement Specification & Contract Documentation; Legal support for Commercial Agreement		Period 2	1.00	39 825.00	39 825.00
Costs for: Project Development including business case, commercial model, procurement strategy and support; Client Engineer Role, pre- & construction period; Procurement Specification & Contract Documentation; Legal support for Commercial Agreement		Period 3	1.00	39 825.00	39 825.00
Costs for: Project Development including business case, commercial model, procurement strategy and support; Client Engineer Role, pre- & construction period; Procurement Specification & Contract Documentation; Legal support for Commercial Agreement		Period 4	1.00	19 912.00	19 912.00
				Total	99 562.00

External expertise and services		South Dublin Living Lab - WPI2			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 2	1.00	0.00	0.00
				Total	0.00

External expertise and services		Aberdeen Living Lab - WPI3			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 2	1.00	0.00	0.00
				Total	0.00

External expertise and services		Kortrijk Living Lab - WPI4			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 2	1.00	0.00	0.00
				Total	0.00

External expertise and services		Heerlen Living Lab - WPI5			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 2	1.00	0.00	0.00
				Total	0.00

External expertise and services		Boulogne sur Mer Living Lab - WPI6			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 2	1.00	0.00	0.00
				Total	0.00

External expertise and services		Communication - WPC			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 2	1.00	0.00	0.00
				Total	0.00

Equipment		Project management - WPM			
Description	Unit type	Period	No. of units	Price per unit	Total
Computer for project coordinator		Period 1	1.00	1 200.00	1 200.00
		Period 2	1.00	0.00	0.00
		Period 3	1.00	0.00	0.00
		Period 4	1.00	0.00	0.00
				Total	1 200.00

Infrastructure and works		Plymouth Living Lab - WPI1			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
		Period 2	1.00	0.00	0.00
Cost of contracts for District Heat network installation. Energy Centre works History Centre network and connection Of which control equipment for energy centre works €87,655.		Period 3	1.00	230 671.00	230 671.00
Remainder of cost of contracts for District Heat network installation. Energy Centre works History Centre network and connection		Period 4	1.00	922 684.00	922 684.00
				Total	1 153 355.00

#printPartnerSumBudget($partner)

Name of partner organisation	CAP 2020 asbl
Partner ID	3
Legal status	private
Type of partner	business support organisation
Co-financing source	ERDF
Outside (the Union part of) the programme area	No

Partner Budget		
	Amount	**Co-financing Rate**
Programme co-financing	241 813.20	60.00
Partner contribution	161 208.64	
Partner total eligible budget	403 021.84	

Origin of partner contribution (indicative)			
Source of contribution	**Legal status**	**% of total partner contribution**	**Amount**
CAP 2020 asbl	private	25.00 %	40 302.18
Walloon Region	public	75.00 %	120 906.56
Sub-total public contribution		75.00 %	120 906.56
Sub-total private contribution		25.00 %	40 302.18
Total		%	161 208.74
Partner total target value			161 208.64

In-kind contribution	
Is there any in-kind contribution included in the project budget for this partner?	no

Partner budget - breakdown per budget line (indicative)

Staff costs	
Are you using the flat rate for staff costs?	No
Project management - WPM	23 782.50
Long Term - WPLT	93 330.00
Evaluation - WPT2	44 167.50
HeatNet Model - WPT3	84 937.50
Plymouth Living Lab - WPI1	0.00
South Dublin Living Lab - WPI2	0.00
Aberdeen Living Lab - WPI3	0.00
Kortrijk Living Lab - WPI4	0.00
Heerlen Living Lab - WPI5	0.00
Boulogne sur Mer Living Lab - WPI6	0.00
Communication - WPC	28 645.00
Total:	274 862.50

Staff costs			Project management - WPM			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
Part time with a fixed percentage	1 person months at 6795 euro month (walloon calculation basis) administrative and financial support	month	Period 1	0.50	6 795.00	3 397.50
	1 person months at 6795 euro month (walloon calculation basis) administrative and financial support	month	Period 2	1.00	6 795.00	6 795.00
	1 person months at 6795 euro month (walloon calculation basis) administrative and financial support	month	Period 3	1.00	6 795.00	6 795.00
	1 person months at 6795 euro month (walloon calculation basis) administrative and financial support	month	Period 4	1.00	6 795.00	6 795.00
					Total	23 782.50

Staff costs			Long Term - WPLT			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
Part time with a fixed percentage	"1 person months at 6795 euro month (walloon calculation basis), recommendations, EU Energy Market, procurement framework and finance protocols with Energy Cities, peer to peer networking events, guide to making transition roadmaps ... "	month	Period 1	1.00	0.00	0.00
	"1 person months at 6795 euro month (walloon calculation basis), recommendations, EU Energy Market, procurement framework and finance protocols with Energy Cities, peer to peer networking events, guide to making transition roadmaps ... "	month	Period 2	2.00	6 795.00	13 590.00
	"1 person months at 6795 euro month (walloon calculation basis), recommendations, EU Energy Market, procurement framework and finance protocols with Energy Cities, peer to peer networking events, guide to making transition roadmaps ... "	month	Period 3	4.50	6 795.00	30 577.50
	"1 person months at 6795 euro month (walloon calculation basis), recommendations, EU Energy Market, procurement framework and finance protocols with Energy Cities, peer to peer networking events, guide to making transition roadmaps ... "	month	Period 4	4.50	10 925.00	49 162.50
					Total	93 330.00

Staff costs			Evaluation - WPT2			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
Part time with a fixed percentage	"1 person months at 6795 euro month (walloon calculation basis), business cases, legislative and regulatory review, identify market opportunities for SMEs "	month	Period 1	0.50	6 795.00	3 397.50
	"1 person months at 6795 euro month (walloon calculation basis), business cases, legislative and regulatory review, identify market opportunities for SMEs "	month	Period 2	2.00	6 795.00	13 590.00
	"1 person months at 6795 euro month (walloon calculation basis), business cases, legislative and regulatory review, identify market opportunities for SMEs "	month	Period 3	2.00	6 795.00	13 590.00
	"1 person months at 6795 euro month (walloon calculation basis), business cases, legislative and regulatory review, identify market opportunities for SMEs "	month	Period 4	2.00	6 795.00	13 590.00
					Total	44 167.50

Staff costs			HeatNet Model - WPT3			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
Part time with a fixed percentage	"1 person months at 6795 euro month (walloon calculation basis), develop procurement framework and finance protocols , legislative and regulatory review and recommendations, database of companies, identify market opportunities for SMEs. "	month	Period 1	0.50	6 795.00	3 397.50
	"1 person months at 6795 euro month (walloon calculation basis), develop procurement framework and finance protocols , legislative and regulatory review and recommendations, database of companies, identify market opportunities for SMEs. "	month	Period 2	4.50	6 795.00	30 577.50
	"1 person months at 6795 euro month (walloon calculation basis), develop procurement framework and finance protocols , legislative and regulatory review and recommendations, database of companies, identify market opportunities for SMEs. "	month	Period 3	4.50	6 795.00	30 577.50
	"1 person months at 6795 euro month (walloon calculation basis), develop procurement framework and finance protocols , legislative and regulatory review and recommendations, database of companies, identify market opportunities for SMEs. "	month	Period 4	3.00	6 795.00	20 385.00
					Total	84 937.50

Staff costs			Communication - WPC			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
			Period 1	1.00	0.00	0.00
Part time with a fixed percentage	1 person months at 6795 euro month (walloon calculation basis) communication tools, events organisation, definition of training program and organisation	month	Period 2	1.00	6 795.00	6 795.00
	2 persons months at 6795 euro and 4130 month (walloon calculation basis)communication tools, events organisation, definition of training program and organisation	month	Period 3	1.00	10 925.00	10 925.00
	2 persons months at 6795 euro and 4130 month (walloon calculation basis)communication tools, events organisation, definition of training program and organisation	month	Period 4	1.00	10 925.00	10 925.00
					Total	28 645.00

Office and administration costs - real costs	
Are you using the flat rate for office and administration costs?	Yes
Flat rate percentage:	15.00 %
Project management - WPM	3 567.37
Long Term - WPLT	13 999.49
Evaluation - WPT2	6 625.12
HeatNet Model - WPT3	12 740.61
Plymouth Living Lab - WPI1	0.00
South Dublin Living Lab - WPI2	0.00
Aberdeen Living Lab - WPI3	0.00
Kortrijk Living Lab - WPI4	0.00
Heerlen Living Lab - WPI5	0.00
Boulogne sur Mer Living Lab - WPI6	0.00
Communication - WPC	4 296.75
Total:	41 229.34

Travel and accommodation		Project management - WPM			
Description	Unit type	Period	No. of units	Price per unit	Total
Attending Partner Meetings and Regional Activities		Period 1	1.00	1 100.00	1 100.00
Attending Partner Meetings and Regional Activities		Period 2	4.00	1 100.00	4 400.00
Attending Partner Meetings and Regional Activities		Period 3	4.00	1 100.00	4 400.00
Attending Partner Meetings and Final Conference		Period 4	4.00	550.00	2 200.00
				Total	12 100.00

Travel and accommodation		Long Term - WPLT			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
Visits of pilots, participations to events (DHC or investment), meeting with other clusters		Period 2	2.00	1 100.00	2 200.00
Visits of pilots, participations to events (DHC or investment), meeting with other clusters		Period 3	2.00	1 100.00	2 200.00
Visits of pilots, participations to events (DHC or investment), meeting with other clusters		Period 4	2.00	1 100.00	2 200.00
				Total	6 600.00

Travel and accommodation		HeatNet Model - WPT3			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
Visits of pilots, participations to events (DHC), meeting with other clusters		Period 2	2.00	1 100.00	2 200.00
Visits of pilots, participations to events (DHC), meeting with other clusters		Period 3	2.00	1 100.00	2 200.00
Visits of pilots, participations to events (DHC), meeting with other clusters		Period 4	2.00	1 100.00	2 200.00
				Total	6 600.00

Travel and accommodation		Communication - WPC			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
		Period 2	1.00	0.00	0.00
visit of pilots or event		Period 3	1.00	1 100.00	1 100.00
visit of pilots or event		Period 4	1.00	1 100.00	1 100.00
				Total	2 200.00

External expertise and services		Project management - WPM			
Description	Unit type	Period	No. of units	Price per unit	Total
Calculated 2.5% Audit FLC cost, on costs incurred as per Walloon auditing guidelines.		Period 1	0.48	1 000.00	480.00
Calculated 2.5% Audit FLC cost, on costs incurred as per Walloon auditing guidelines.		Period 2	2.53	1 000.00	2 530.00
Calculated 2.5% Audit FLC cost, on costs incurred as per Walloon auditing guidelines.		Period 3	3.33	1 000.00	3 330.00
Calculated 2.5% Audit FLC cost, on costs incurred as per Walloon auditing guidelines.		Period 4	3.49	1 000.00	3 490.00
				Total	9 830.00

External expertise and services		Long Term - WPLT			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
1 External consultant 640 euro day for communication advices and support for events organisation + 2.5% total budget for financial audit (walloon rules)		Period 2	6.00	640.00	3 840.00
1 External consultant 640 euro day for communication advices and support for events organisation + 2.5% total budget for financial audit (walloon rules)		Period 3	10.00	640.00	6 400.00
1 External consultant 640 euro day for communication advices and support for events organisation + 2.5% total budget for financial audit (walloon rules)		Period 4	10.00	640.00	6 400.00
				Total	16 640.00

External expertise and services		HeatNet Model - WPT3			
Description	Unit type	Period	No. of units	Price per unit	Total
1 External consultant 640 euro day financial and technical expertises + 2.5% total budget for financial audit (walloon rules)		Period 1	10.00	640.00	6 400.00
1 External consultant 640 euro day financial and technical expertises + 2.5% total budget for financial audit (walloon rules)		Period 2	10.00	640.00	6 400.00
1 External consultant 640 euro day financial and technical expertises + 2.5% total budget for financial audit (walloon rules)		Period 3	10.00	640.00	6 400.00
1 External consultant 640 euro day financial and technical expertises + 2.5% total budget for financial audit (walloon rules)		Period 4	6.00	640.00	3 840.00
				Total	23 040.00

External expertise and services		Communication - WPC			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
		Period 2	1.00	0.00	0.00
1 External consultant 640 euro day for communication advices and support for events organisation + 2.5% total budget for financial audit (walloon rules)t		Period 3	6.50	640.00	4 160.00
1 External consultant 640 euro day for communication advices and support for events organisation + 2.5% total budget for financial audit (walloon rules)		Period 4	9.00	640.00	5 760.00
				Total	9 920.00

#printPartnerSumBudget($partner)

Name of partner organisation	Stad Kortrijk
Partner ID	4
Legal status	public
Type of partner	local public authority
Co-financing source	ERDF
Outside (the Union part of) the programme area	No

Partner Budget		
	Amount	**Co-financing Rate**
Programme co-financing	809 401.20	60.00
Partner contribution	539 601.30	
Partner total eligible budget	1 349 002.50	

Origin of partner contribution (indicative)			
Source of contribution	**Legal status**	**% of total partner contribution**	**Amount**
Stad Kortrijk	public	100.00 %	539 601.00
Sub-total public contribution		100.00 %	539 601.00
Sub-total private contribution		0.00 %	0.00
Total		%	539 601.00
Partner total target value			539 601.30

In-kind contribution	
Is there any in-kind contribution included in the project budget for this partner?	no

Partner budget - breakdown per budget line (indicative)

Staff costs	
Are you using the flat rate for staff costs?	Yes
Flat rate amount:	20.00
Project management - WPM	4 900.00
Long Term - WPLT	0.00
Evaluation - WPT2	0.00
HeatNet Model - WPT3	5 120.00
Plymouth Living Lab - WPI1	0.00
South Dublin Living Lab - WPI2	0.00
Aberdeen Living Lab - WPI3	0.00
Kortrijk Living Lab - WPI4	207 680.00
Heerlen Living Lab - WPI5	0.00
Boulogne sur Mer Living Lab - WPI6	0.00
Communication - WPC	1 650.00
Total:	219 350.00

Office and administration costs - real costs	
Are you using the flat rate for office and administration costs?	Yes
Flat rate percentage:	15.00 %
Project management - WPM	735.00
Long Term - WPLT	0.00
Evaluation - WPT2	0.00
HeatNet Model - WPT3	768.00
Plymouth Living Lab - WPI1	0.00
South Dublin Living Lab - WPI2	0.00
Aberdeen Living Lab - WPI3	0.00
Kortrijk Living Lab - WPI4	31 152.00
Heerlen Living Lab - WPI5	0.00
Boulogne sur Mer Living Lab - WPI6	0.00
Communication - WPC	247.50
Total:	32 902.50

Travel and accommodation		Project management - WPM			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	4.00	750.00	3 000.00
cost per partner meeting/workshops per person		Period 2	4.00	750.00	3 000.00
cost per partner meeting/workshops per person		Period 3	4.00	750.00	3 000.00
cost per partner meeting/workshops per person		Period 4	2.00	750.00	1 500.00
				Total	10 500.00

Travel and accommodation		HeatNet Model - WPT3			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 3	1.00	0.00	0.00
				Total	0.00

Travel and accommodation		Communication - WPC			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
travel to events, workshops (2/year, 1 person)		Period 2	2.00	375.00	750.00
travel to events, workshops (2/year, 1 person)		Period 3	2.00	375.00	750.00
travel to events, workshops (2/year, 1 person)		Period 4	2.00	375.00	750.00
				Total	2 250.00

External expertise and services		Project management - WPM			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
FLC Audits		Period 2	2.00	2 000.00	4 000.00
FLC Audits		Period 3	2.00	2 000.00	4 000.00
FLC Audits		Period 4	3.00	2 000.00	6 000.00
				Total	14 000.00

External expertise and services		Long Term - WPLT			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 2	1.00	0.00	0.00
		Period 3	1.00	0.00	0.00
		Period 4	1.00	0.00	0.00
				Total	0.00

External expertise and services		Evaluation - WPT2			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 2	1.00	0.00	0.00
		Period 3	1.00	0.00	0.00
		Period 4	1.00	0.00	0.00
				Total	0.00

External expertise and services		HeatNet Model - WPT3			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
		Period 2	1.00	0.00	0.00
External expertise for design study of ESCO (Dx 2.2)		Period 3	32.00	800.00	25 600.00
		Period 4	1.00	0.00	0.00
				Total	25 600.00

External expertise and services		Plymouth Living Lab - WPI1			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 2	1.00	0.00	0.00
		Period 3	1.00	0.00	0.00
		Period 4	1.00	0.00	0.00
				Total	0.00

External expertise and services		South Dublin Living Lab - WPI2			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 2	1.00	0.00	0.00
		Period 3	1.00	0.00	0.00
		Period 4	1.00	0.00	0.00
				Total	0.00

External expertise and services		Aberdeen Living Lab - WPI3			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 2	1.00	0.00	0.00
		Period 3	1.00	0.00	0.00
		Period 4	1.00	0.00	0.00
				Total	0.00

External expertise and services		Kortrijk Living Lab - WPI4			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
50 units for Deliverable I4.1.2 and 106 units external expertise predominately for Activity 1, less for Activity 2 and minor for Activity 3		Period 2	156.00	800.00	124 800.00
50 units for study Deliverable I4.1.2 and 74 units for external expertise predominately for Deliverable 2.1		Period 3	124.00	800.00	99 200.00
62 units for studies Deliverable I4.1.2 and 106 units of external expertise predominately for activity 3.		Period 4	168.00	800.00	134 400.00
				Total	358 400.00

External expertise and services		Heerlen Living Lab - WPI5			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 2	1.00	0.00	0.00
		Period 3	1.00	0.00	0.00
		Period 4	1.00	0.00	0.00
				Total	0.00

External expertise and services		Boulogne sur Mer Living Lab - WPI6			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 2	1.00	0.00	0.00
		Period 3	1.00	0.00	0.00
		Period 4	1.00	0.00	0.00
				Total	0.00

External expertise and services		Communication - WPC			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
communication and promotion		Period 2	1.00	2 000.00	2 000.00
communication and promotion		Period 3	1.00	2 000.00	2 000.00
communication and promotion		Period 4	1.00	2 000.00	2 000.00
				Total	6 000.00

Equipment		HeatNet Model - WPT3			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 3	1.00	0.00	0.00
				Total	0.00

Equipment		Kortrijk Living Lab - WPI4			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
server, metering and monitoring		Period 2	1.00	80 000.00	80 000.00
		Period 3	1.00	0.00	0.00
		Period 4	1.00	0.00	0.00
				Total	80 000.00

Infrastructure and works		Project management - WPM			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
		Period 2	1.00	0.00	0.00
		Period 3	1.00	0.00	0.00
		Period 4	1.00	0.00	0.00
				Total	0.00

Infrastructure and works		HeatNet Model - WPT3			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 3	1.00	0.00	0.00
				Total	0.00

Infrastructure and works		Kortrijk Living Lab - WPI4			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
District Heating Network Pipes CKW and exchangers		Period 2	1.00	100 000.00	100 000.00
District Heating Extension CKW Hubs and further extension		Period 3	1.00	200 000.00	200 000.00
Hubs and further extensions		Period 4	1.00	300 000.00	300 000.00
				Total	600 000.00

Net Revenue		HeatNet Model - WPT3			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 3	1.00	0.00	0.00
				Total	0.00

#printPartnerSumBudget($partner)

Name of partner organisation	Intercommunale Leiedal
Partner ID	5
Legal status	public
Type of partner	local public authority
Co-financing source	ERDF
Outside (the Union part of) the programme area	No

Partner Budget		
	Amount	**Co-financing Rate**
Programme co-financing	179 850.00	60.00
Partner contribution	119 900.00	
Partner total eligible budget	299 750.00	

Origin of partner contribution (indicative)

Source of contribution	Legal status	% of total partner contribution	Amount
Intercommunale Leiedal	public	100.00 %	119 900.00
Sub-total public contribution		100.00 %	119 900.00
Sub-total private contribution		0.00 %	0.00
Total		%	119 900.00
Partner total target value			119 900.00

In-kind contribution	
Is there any in-kind contribution included in the project budget for this partner?	no

Partner budget - breakdown per budget line (indicative)

Staff costs	
Are you using the flat rate for staff costs?	No
Project management - WPM	30 000.00
Long Term - WPLT	105 000.00
Evaluation - WPT2	7 500.00
HeatNet Model - WPT3	18 750.00
Plymouth Living Lab - WPI1	0.00
South Dublin Living Lab - WPI2	0.00
Aberdeen Living Lab - WPI3	0.00
Kortrijk Living Lab - WPI4	26 250.00
Heerlen Living Lab - WPI5	0.00
Boulogne sur Mer Living Lab - WPI6	0.00
Communication - WPC	22 500.00
Total:	210 000.00

Staff costs			Project management - WPM			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
Full-time	project management, attendance of partner meetings, reporting	month	Period 1	1.00	7 500.00	7 500.00
	project management, attendance of partner meetings, reporting	month	Period 2	1.00	7 500.00	7 500.00
	project management, attendance of partner meetings, reporting	month	Period 3	1.00	7 500.00	7 500.00
	project management, attendance of partner meetings, reporting	month	Period 4	1.00	7 500.00	7 500.00
					Total	30 000.00

Staff costs			Long Term - WPLT			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
Full-time	Contribute to transnational co-creation of framework to create regional roadmap for long term impact. Preparation of regional roll-out (assesment of potential regional impact of 4DHC: spatial issues).	month	Period 1	4.00	7 500.00	30 000.00
	regional application of framework & creation of a regional roadmap for long term impact.Processes with stakeholders.	month	Period 2	4.00	7 500.00	30 000.00
	regional application of framework & creation of a regional roadmap for long term impact. Processes with stakeholders. Management of interaction with spatial planning.	month	Period 3	4.00	7 500.00	30 000.00
	initaition of roll-out of regional roadmap for long term impact. Management of interaction with spatial planning. Processes with stakeholders.	month	Period 4	2.00	7 500.00	15 000.00
					Total	105 000.00

Staff costs			Evaluation - WPT2			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
			Period 1	1.00	0.00	0.00
	support evaluation of pilot city of Kortrijk		Period 2	0.50	7 500.00	3 750.00
	support evaluation of pilot city of Kortrijk		Period 3	0.50	7 500.00	3 750.00
			Period 4	1.00	0.00	0.00
					Total	7 500.00

Staff costs			HeatNet Model - WPT3			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
Full-time		month	Period 1	1.00	0.00	0.00
	contribution to the development of the HeatNET-model and its regional tailoring, testing and application	month	Period 2	1.00	7 500.00	7 500.00
	contribution to the development of the HeatNET-model and its regional tailoring, testing and application	month	Period 3	1.00	7 500.00	7 500.00
	contribution to the development of the HeatNET-model and its regional tailoring, testing and application	month	Period 4	0.50	7 500.00	3 750.00
					Total	18 750.00

Staff costs			Plymouth Living Lab - WPI1			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
			Period 1	1.00	0.00	0.00
			Period 2	1.00	0.00	0.00
			Period 3	1.00	0.00	0.00
			Period 4	1.00	0.00	0.00
					Total	0.00

Staff costs			Kortrijk Living Lab - WPI4			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
Full-time	providing bilateral support to the city of Kortrijk on the pilot, apply expertise from other WP's, connect with regional roll-out strategy	month	Period 1	1.00	7 500.00	7 500.00
	providing bilateral support to the city of Kortrijk on the pilot, apply expertise from other WP's, connect with regional roll-out strategy	month	Period 2	1.00	7 500.00	7 500.00
	providing bilateral support to the city of Kortrijk on the pilot, apply expertise from other WP's, connect with regional roll-out strategy	month	Period 3	1.00	7 500.00	7 500.00
	providing bilateral support to the city of Kortrijk on the pilot, apply expertise from other WP's, connect with regional roll-out strategy	month	Period 4	0.50	7 500.00	3 750.00
					Total	26 250.00

Staff costs			Communication - WPC			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
Full-time	regional communication activities, contribute to transnational communication	month	Period 1	0.50	7 500.00	3 750.00
	regional communication activities, contribute to transnational communication	month	Period 2	0.50	7 500.00	3 750.00
	regional communication activities, contribute to transnational communication	month	Period 3	1.00	7 500.00	7 500.00
	regional communication activities, contribute to transnational communication	month	Period 4	1.00	7 500.00	7 500.00
					Total	22 500.00

Office and administration costs - real costs	
Are you using the flat rate for office and administration costs?	Yes
Flat rate percentage:	15.00 %
Project management - WPM	4 500.00
Long Term - WPLT	15 750.00
Evaluation - WPT2	1 125.00
HeatNet Model - WPT3	2 812.50
Plymouth Living Lab - WPI1	0.00
South Dublin Living Lab - WPI2	0.00
Aberdeen Living Lab - WPI3	0.00
Kortrijk Living Lab - WPI4	3 937.50
Heerlen Living Lab - WPI5	0.00
Boulogne sur Mer Living Lab - WPI6	0.00
Communication - WPC	3 375.00
Total:	31 500.00

Travel and accommodation		Project management - WPM			
Description	Unit type	Period	No. of units	Price per unit	Total
partner meetings & workshops		Period 1	3.00	750.00	2 250.00
partner meetings & workshops		Period 2	2.00	750.00	1 500.00
partner meetings & workshops		Period 3	2.00	750.00	1 500.00
partner meetings & workshops		Period 4	3.00	750.00	2 250.00
				Total	7 500.00

Travel and accommodation		Long Term - WPLT			
Description	Unit type	Period	No. of units	Price per unit	Total
travel costs for meetings, seminars, etc.		Period 1	1.00	1 000.00	1 000.00
travel costs for meetings, seminars, etc.		Period 2	1.00	1 000.00	1 000.00
travel costs for meetings, seminars, etc.		Period 3	1.00	1 000.00	1 000.00
travel costs for meetings, seminars, etc.		Period 4	1.00	500.00	500.00
				Total	3 500.00

External expertise and services		Project management - WPM			
Description	Unit type	Period	No. of units	Price per unit	Total
FLC-audit		Period 1	1.00	750.00	750.00
FLC-audit		Period 2	2.00	750.00	1 500.00
FLC-audit		Period 3	2.00	750.00	1 500.00
FLC-audit		Period 4	2.00	750.00	1 500.00
				Total	5 250.00

External expertise and services		Long Term - WPLT			
Description	Unit type	Period	No. of units	Price per unit	Total
Expertise in spatial energy mapping related to spatial planning and energy atlas (GIS), to be able to identify high potential zones for 4DHC and relate with potential renewable input sources		Period 1	1.00	10 000.00	10 000.00
Expertise on spatial energy issues in urban design and spatial planning to be able to do research-by-design to enable the implementation of 4DHC on different spatial levels (from regional to site-specific)		Period 2	1.00	10 000.00	10 000.00
Expertise on spatial energy issues in urban design and spatial planning to be able to do research-by-design to enable the implementation of 4DHC on different spatial levels (from regional to site-specific)		Period 3	1.00	10 000.00	10 000.00
		Period 4	1.00	0.00	0.00
				Total	30 000.00

External expertise and services		Communication - WPC			
Description	Unit type	Period	No. of units	Price per unit	Total
communication material, publishing, media costs		Period 1	3.00	1 000.00	3 000.00
communication material, publishing, media costs		Period 2	3.00	1 000.00	3 000.00
communication material, publishing, media costs		Period 3	3.00	1 000.00	3 000.00
communication material, publishing, media costs		Period 4	3.00	1 000.00	3 000.00
				Total	12 000.00

#printPartnerSumBudget($partner)

Name of partner organisation	Energy Cities
Partner ID	6
Legal status	private
Type of partner	interest groups including NGOs
Co-financing source	ERDF
Outside (the Union part of) the programme area	No

Partner Budget		
	Amount	**Co-financing Rate**
Programme co-financing	190 009.20	60.00
Partner contribution	126 673.30	
Partner total eligible budget	316 682.50	

Origin of partner contribution (indicative)			
Source of contribution	**Legal status**	**% of total partner contribution**	**Amount**
Energy Cities	private	100.00 %	126 673.00
Sub-total public contribution		0.00 %	0.00
Sub-total private contribution		100.00 %	126 673.00
Total		%	126 673.00
Partner total target value			126 673.30

In-kind contribution	
Is there any in-kind contribution included in the project budget for this partner?	no

Partner budget - breakdown per budget line (indicative)

Staff costs	
Are you using the flat rate for staff costs?	No
Project management - WPM	32 400.00
Long Term - WPLT	137 500.00
Evaluation - WPT2	11 000.00
HeatNet Model - WPT3	11 000.00
Plymouth Living Lab - WPI1	0.00
South Dublin Living Lab - WPI2	0.00
Aberdeen Living Lab - WPI3	0.00
Kortrijk Living Lab - WPI4	0.00
Heerlen Living Lab - WPI5	0.00
Boulogne sur Mer Living Lab - WPI6	0.00
Communication - WPC	69 300.00
Total:	261 200.00

Staff costs			Project management - WPM			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
Part time with a fixed percentage	project management, attendance of partner meetings, reporting for Payment Claims etc.	month	Period 1	0.40	6 000.00	2 400.00
	project management, attendance of partner meetings, reporting for Payment Claims etc.	month	Period 2	1.50	6 000.00	9 000.00
	project management, attendance of partner meetings, reporting for Payment Claims etc.	month	Period 3	1.50	6 000.00	9 000.00
	project management, attendance of partner meetings, reporting for Payment Claims etc.	month	Period 4	2.00	6 000.00	12 000.00
					Total	32 400.00

Staff costs			Long Term - WPLT			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
Part time with a fixed percentage	Extend database of public authorities; Lead delivery of Peer to Peer training/mentoring materials and events, lead Legislative and Regulatory review and Recommendations; contribute to procurement framework and finance protocols	month	Period 1	1.00	5 500.00	5 500.00
	Extend database of public authorities	month	Period 2	4.00	5 500.00	22 000.00
	delivery of Peer to Peer training/mentoring events, lead Legislative and Regulatory review and Recommendations	month	Period 3	10.00	5 500.00	55 000.00
	delivery of Peer to Peer training/mentoring events, lead Legislative and Regulatory review and Recommendations; contribute to procurement framework and finance protocols	month	Period 4	10.00	5 500.00	55 000.00
					Total	137 500.00

Staff costs			Evaluation - WPT2			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
Part time with a fixed percentage		month	Period 1	1.00	0.00	0.00
	Contribution to the evaluation	month	Period 2	1.00	5 500.00	5 500.00
	Contribution to the evaluation	month	Period 3	1.00	5 500.00	5 500.00
	Contribution to the evaluation	month	Period 4	0.00	5 500.00	0.00
					Total	11 000.00

Staff costs			HeatNet Model - WPT3			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
Part time with a fixed percentage	Contribute to "How to Guide to build and finance 4DHC"	month	Period 1	1.00	0.00	0.00
	Contribute to "How to Guide to build and finance 4DHC"	month	Period 2	2.00	5 500.00	11 000.00
		month	Period 3	1.00	0.00	0.00
		month	Period 4	1.00	0.00	0.00
					Total	11 000.00

Staff costs			Communication - WPC			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
Part time with a fixed percentage	Preparation of Communications Plan	month	Period 1	2.60	5 500.00	14 300.00
	Management of Project communications at Global Project Level, Webinars, Promotion and Dissemination	month	Period 2	3.00	5 500.00	16 500.00
	Management of Project communications at Global Project Level, Webinars, Promotion and Dissemination	month	Period 3	3.00	5 500.00	16 500.00
	Management of Project communications at Global Project Level, Webinars, Promotion and Dissemination. Organisation of Final Conference in Brussels with concomitant publicity and report distribution.	month	Period 4	4.00	5 500.00	22 000.00
					Total	69 300.00

Office and administration costs - real costs	
Are you using the flat rate for office and administration costs?	Yes
Flat rate percentage:	15.00 %
Project management - WPM	4 860.00
Long Term - WPLT	20 625.00
Evaluation - WPT2	1 650.00
HeatNet Model - WPT3	1 650.00
Plymouth Living Lab - WPI1	0.00
South Dublin Living Lab - WPI2	0.00
Aberdeen Living Lab - WPI3	0.00
Kortrijk Living Lab - WPI4	0.00
Heerlen Living Lab - WPI5	0.00
Boulogne sur Mer Living Lab - WPI6	0.00
Communication - WPC	10 395.00
Total:	39 180.00

Travel and accommodation		Project management - WPM			
Description	Unit type	Period	No. of units	Price per unit	Total
Travel costs for partners meetings for 2 people		Period 1	2.00	700.00	1 400.00
Travel costs for partners meetings for 2 people		Period 2	4.00	700.00	2 800.00
Travel costs for partners meetings for 2 people		Period 3	4.00	700.00	2 800.00
Travel costs for partners meetings for 2 people		Period 4	4.00	700.00	2 800.00
				Total	9 800.00

Travel and accommodation		Long Term - WPLT			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
Costs incurred for Travel to Local, Regional, National and International meetings / conferences etc on Long Term Impact of DHC		Period 2	1.00	750.00	750.00
Costs incurred for Travel to Local, Regional, National and International meetings / conferences etc on Long Term Impact of DHC		Period 3	1.50	750.00	1 125.00
Costs incurred for Travel to Local, Regional, National and International meetings / conferences etc on Long Term Impact of DHC		Period 4	2.17	750.00	1 627.50
				Total	3 502.50

Travel and accommodation		Communication - WPC			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
Cost of Attending Regional Events / Seminars.		Period 2	1.00	750.00	750.00
Travel associated with Comms WP Leader		Period 3	1.00	750.00	750.00
Travel costs for arranging Final Conference, attending Local and Regional Events etc.		Period 4	2.00	750.00	1 500.00
				Total	3 000.00

#printPartnerSumBudget($partner)

Name of partner organisation	Ville de Boulogne-sur-Mer
Partner ID	7
Legal status	public
Type of partner	local public authority
Co-financing source	ERDF
Outside (the Union part of) the programme area	No

Partner Budget		
	Amount	**Co-financing Rate**
Programme co-financing	846 294.00	60.00
Partner contribution	564 195.60	
Partner total eligible budget	1 410 489.60	

Origin of partner contribution (indicative)			
Source of contribution	**Legal status**	**% of total partner contribution**	**Amount**
Ville de Boulogne-sur-Mer	public	100.00 %	564 195.84
Sub-total public contribution		100.00 %	564 195.84
Sub-total private contribution		0.00 %	0.00
Total		%	564 195.84
Partner total target value			564 195.60

In-kind contribution	
Is there any in-kind contribution included in the project budget for this partner?	no

Partner budget - breakdown per budget line (indicative)

Staff costs	
Are you using the flat rate for staff costs?	No
Project management - WPM	34 188.00
Long Term - WPLT	18 760.00
Evaluation - WPT2	8 260.00
HeatNet Model - WPT3	46 760.00
Plymouth Living Lab - WPI1	0.00
South Dublin Living Lab - WPI2	0.00
Aberdeen Living Lab - WPI3	0.00
Kortrijk Living Lab - WPI4	0.00
Heerlen Living Lab - WPI5	0.00
Boulogne sur Mer Living Lab - WPI6	38 080.00
Communication - WPC	4 816.00
Total:	150 864.00

Staff costs			Project management - WPM			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
Hourly basis	Management is mainly on sub partner HL for translation - claims - MCs - terriorial updates. No one only dedicated to project.	month	Period 1	111.00	28.00	3 108.00
	Management is mainly on sub partner HL for translation - claims - MCs - terriorial updates. No one only dedicated to project.	month	Period 2	300.00	28.00	8 400.00
	Management is mainly on sub partner HL for translation - claims - MCs - terriorial updates. No one only dedicated to project.	month	Period 3	310.00	28.00	8 680.00
	Management is mainly on sub partner HL for translation - claims - MCs - terriorial updates. No one only dedicated to project.	month	Period 4	500.00	28.00	14 000.00
					Total	34 188.00

Staff costs			Long Term - WPLT			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
Hourly basis	training, networking, link with french national committee on DHCs (regularly all along the project)	month	Period 1	20.00	28.00	560.00
	training, networking, link with french national committee on DHCs (regularly all along the project)	month	Period 2	150.00	28.00	4 200.00
	training, networking, link with french national committee on DHCs (regularly all along the project)	month	Period 3	250.00	28.00	7 000.00
	training, networking, link with french national committee on DHCs (regularly all along the project)	month	Period 4	250.00	28.00	7 000.00
					Total	18 760.00

Staff costs			Evaluation - WPT2			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
Hourly basis	Time to procure for energy audits of buildings after connecting to DHC when datas before connection are available = promote DHC to inhabitants- assessment on management (delegated) Procurement	month	Period 1	10.00	28.00	280.00
	Analysis and meetings on first energy audits - liaise with universities	month	Period 2	85.00	28.00	2 380.00
	Analysis and meetings on first energy audits - liaise with universities	month	Period 3	50.00	28.00	1 400.00
	Procure - analysis - strategies for improvements	month	Period 4	150.00	28.00	4 200.00
					Total	8 260.00

Staff costs			HeatNet Model - WPT3			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
Hourly basis	work with partners on removing barriers	month	Period 1	300.00	28.00	8 400.00
	work on reports - guide - from Wp Investmentt -	month	Period 2	720.00	28.00	20 160.00
	work on reports - guide - from Wp Investmentt -	month	Period 3	400.00	28.00	11 200.00
	feed into toolkit / roadmap	month	Period 4	250.00	28.00	7 000.00
					Total	46 760.00

Staff costs			Boulogne sur Mer Living Lab - WPI6			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
Hourly basis	procurement - negotiations - setting up contracts - drafting guides - drafting reports - translation - preliminary studies - framework documents - setting up of strategy for better energy management - work on impacts of PSD	month	Period 1	60.00	28.00	1 680.00
	procurement - analysis - work on reports and guides - negotiations	month	Period 2	500.00	28.00	14 000.00
	work on reports and guides - negotiations	month	Period 3	750.00	28.00	21 000.00
	work on reports and guides - negotiations	month	Period 4	50.00	28.00	1 400.00
					Total	38 080.00

Staff costs			Communication - WPC			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
Hourly basis	time for newsletter / blog / website / newspapers + communication strategy	month	Period 1	35.00	28.00	980.00
	Setting up communication Strategy / Use internal communication mode / Use local newspaper for launch of project (and then for every particular even) / Informative meetings		Period 2	40.00	28.00	1 120.00
	Informative meetings / Public meetings		Period 3	55.00	28.00	1 540.00
	Informative meetings / Public meetings		Period 4	42.00	28.00	1 176.00
					Total	4 816.00

Office and administration costs - real costs	
Are you using the flat rate for office and administration costs?	Yes
Flat rate percentage:	15.00 %
Project management - WPM	5 128.20
Long Term - WPLT	2 814.00
Evaluation - WPT2	1 239.00
HeatNet Model - WPT3	7 014.00
Plymouth Living Lab - WPI1	0.00
South Dublin Living Lab - WPI2	0.00
Aberdeen Living Lab - WPI3	0.00
Kortrijk Living Lab - WPI4	0.00
Heerlen Living Lab - WPI5	0.00
Boulogne sur Mer Living Lab - WPI6	5 712.00
Communication - WPC	722.40
Total:	22 629.60

Travel and accommodation		Project management - WPM			
Description	Unit type	Period	No. of units	Price per unit	Total
To attend monitoring committes / events - for HL and city meetings to prepare claims and MCs		Period 1	2.00	333.00	666.00
To attend monitoring committes / events - for HL and city meetings to prepare claims and MCs		Period 2	2.00	777.00	1 554.00
To attend monitoring committes / events - for HL and city meetings to prepare claims and MCs		Period 3	2.00	333.00	666.00
To attend monitoring committes / events - for HL and city meetings to prepare claims and MCs		Period 4	2.00	666.00	1 332.00
				Total	4 218.00

Travel and accommodation		Long Term - WPLT			
Description	Unit type	Period	No. of units	Price per unit	Total
to attend training, participate in conferences (same comment as above)		Period 1	1.00	0.00	0.00
to attend training, participate in conferences (same comment as above)		Period 2	2.00	150.00	300.00
to attend training, participate in conferences (same comment as above)		Period 3	2.00	250.00	500.00
to attend training, participate in conferences (same comment as above)		Period 4	1.00	100.00	100.00
				Total	900.00

Travel and accommodation		Evaluation - WPT2			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
		Period 2	1.00	0.00	0.00
		Period 3	0.50	80.00	40.00
		Period 4	0.50	30.00	15.00
				Total	55.00

Travel and accommodation		HeatNet Model - WPT3			
Description	Unit type	Period	No. of units	Price per unit	Total
site visits		Period 1	20.00	0.50	10.00
site visits		Period 2	60.00	0.50	30.00
site visits		Period 3	60.00	0.50	30.00
site visits		Period 4	20.00	0.50	10.00
				Total	80.00

Travel and accommodation		Boulogne sur Mer Living Lab - WPI6			
Description	Unit type	Period	No. of units	Price per unit	Total
regular site visits		Period 1	64.00	4.00	256.00
regular site visits		Period 2	192.00	4.00	768.00
regular site visits		Period 3	96.00	4.00	384.00
regular site visits		Period 4	40.00	4.00	160.00
				Total	1 568.00

External expertise and services		Project management - WPM			
Description	Unit type	Period	No. of units	Price per unit	Total
FLC - shared costs		Period 1	1.00	3 000.00	3 000.00
FLC - shared costs		Period 2	1.00	6 000.00	6 000.00
FLC - shared costs		Period 3	1.00	6 000.00	6 000.00
FLC - shared costs		Period 4	1.00	7 500.00	7 500.00
				Total	22 500.00

External expertise and services		Long Term - WPLT			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
		Period 3	1.00	0.00	0.00
		Period 2	1.00	0.00	0.00
		Period 4	1.00	0.00	0.00
				Total	0.00

External expertise and services		Evaluation - WPT2			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	750.00	0.00	0.00
energy audits (50€ per unit). Assessment / Comparison of energy use of buildings before and after connection. Assessment of DHC extension . Optimization of connections .		Period 2	750.00	50.00	37 500.00
energy audits (50€ per unit). Assessment / Comparison of energy use of buildings before and after connection. Assessment of DHC extension . Optimization of connections .		Period 3	750.00	50.00	37 500.00
expert to audit overall efficiency (running / maintenance)		Period 4	1.00	6 000.00	6 000.00
				Total	81 000.00

External expertise and services		HeatNet Model - WPT3			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
		Period 4	1.00	0.00	0.00
				Total	0.00

External expertise and services		Plymouth Living Lab - WPI1			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
				Total	0.00

External expertise and services		South Dublin Living Lab - WPI2			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
				Total	0.00

External expertise and services		Aberdeen Living Lab - WPI3			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
				Total	0.00

External expertise and services		Kortrijk Living Lab - WPI4			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
				Total	0.00

External expertise and services		Heerlen Living Lab - WPI5			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
				Total	0.00

External expertise and services		Boulogne sur Mer Living Lab - WPI6			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	0.00	0.00	0.00
Expertise on options to improve secondary network and energy management in buildings connected to DHC Study on the potential of waste energy to be used from Nausicaa Pipe routes options and link with other future cooling networks		Period 2	1.00	55 000.00	55 000.00
Expertise on options to improve secondary network and energy management in buildings connected to DHC Study on the potential of waste energy to be used from Nausicaa Pipe routes options and link with other future cooling networks		Period 3	1.00	75 000.00	75 000.00
		Period 4	1.00	0.00	0.00
				Total	130 000.00

External expertise and services		Communication - WPC			
Description	Unit type	Period	No. of units	Price per unit	Total
to print booklets / flyers / USB sticks for people working on HeatNet (to have all requireds documents at meetings - with DHC partners) - catering for informative meetings		Period 1	1.00	0.00	0.00
Communication tools for meetings and logos on investment sites		Period 2	1.00	3 800.00	3 800.00
For local publication on HeatNet (printing)		Period 3	1.00	200.00	200.00
printing reports for local partner for dissemination		Period 4	1.00	400.00	400.00
				Total	4 400.00

Equipment		Project management - WPM			
Description	Unit type	Period	No. of units	Price per unit	Total
Sat Nav to INTERREG MCs (not fully claimed under HeatNet)		Period 1	1.00	75.00	75.00
		Period 2	1.00	0.00	0.00
		Period 3	1.00	0.00	0.00
		Period 4	1.00	0.00	0.00
				Total	75.00

Equipment		Long Term - WPLT			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 3	1.00	0.00	0.00
		Period 1	1.00	0.00	0.00
		Period 2	1.00	0.00	0.00
		Period 4	1.00	0.00	0.00
				Total	0.00

Equipment		HeatNet Model - WPT3			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 4	1.00	0.00	0.00
				Total	0.00

Equipment		Boulogne sur Mer Living Lab - WPI6			
Description	Unit type	Period	No. of units	Price per unit	Total
setting up of various meters at the substation level (7 substations) - multiplication of capture for energy data to be used to improve energy management (about 120) meter in each sub station (7)		Period 1	7.00	400.00	2 800.00
meter in each sub station (7) captors for better energy management		Period 2	120.00	120.00	14 400.00
		Period 3	1.00	0.00	0.00
		Period 4	1.00	0.00	0.00
				Total	17 200.00

Infrastructure and works		Project management - WPM			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 2	1.00	0.00	0.00
				Total	0.00

Infrastructure and works		Long Term - WPLT			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 3	1.00	0.00	0.00
		Period 1	1.00	0.00	0.00
		Period 2	1.00	0.00	0.00
		Period 4	1.00	0.00	0.00
				Total	0.00

Infrastructure and works		HeatNet Model - WPT3			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 4	1.00	0.00	0.00
				Total	0.00

Infrastructure and works		Boulogne sur Mer Living Lab - WPI6			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
Transmission pipes (only part focused on end energy use and potential future connections with cooling network). Heat Exchangers and Installation. Connection for end energy and estates.		Period 2	1.00	175 000.00	175 000.00
Transmission pipes (only part focused on end energy use and potential future connections with cooling network). Heat Exchangers and Installation. Connection for end energy and estates.		Period 3	1.00	500 000.00	500 000.00
Improvement of secondary network and energy management systems in buildings connected to DHC.		Period 4	1.00	300 000.00	300 000.00
				Total	975 000.00

Net Revenue		Project management - WPM			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 2	1.00	0.00	0.00
				Total	0.00

Net Revenue		Long Term - WPLT			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 3	1.00	0.00	0.00
		Period 1	1.00	0.00	0.00
		Period 2	1.00	0.00	0.00
		Period 4	1.00	0.00	0.00
				Total	0.00

Net Revenue		HeatNet Model - WPT3			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 4	1.00	0.00	0.00
				Total	0.00

#printPartnerSumBudget($partner)

Name of partner organisation	Universiteit Gent
Partner ID	8
Legal status	public
Type of partner	higher education and research
Co-financing source	ERDF
Outside (the Union part of) the programme area	No

Partner Budget		
	Amount	**Co-financing Rate**
Programme co-financing	210 183.00	60.00
Partner contribution	140 122.00	
Partner total eligible budget	350 305.00	

Origin of partner contribution (indicative)			
Source of contribution	**Legal status**	**% of total partner contribution**	**Amount**
Universiteit Gent	public	100.00 %	140 122.00
Sub-total public contribution		100.00 %	140 122.00
Sub-total private contribution		0.00 %	0.00
Total		%	140 122.00
Partner total target value			140 122.00

In-kind contribution	
Is there any in-kind contribution included in the project budget for this partner?	no

Partner budget - breakdown per budget line (indicative)

Staff costs	
Are you using the flat rate for staff costs?	No
Project management - WPM	26 400.00
Long Term - WPLT	19 800.00
Evaluation - WPT2	33 000.00
HeatNet Model - WPT3	46 200.00
Plymouth Living Lab - WPI1	0.00
South Dublin Living Lab - WPI2	0.00
Aberdeen Living Lab - WPI3	0.00
Kortrijk Living Lab - WPI4	105 600.00
Heerlen Living Lab - WPI5	0.00
Boulogne sur Mer Living Lab - WPI6	0.00
Communication - WPC	42 900.00
Total:	273 900.00

Staff costs			Project management - WPM			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
Full-time	Contribution to partner meetings, payment claims and partnership requirements	month	Period 1	1.00	6 600.00	6 600.00
	Contribution to partner meetings, payment claims and partnership requirements	month	Period 2	1.00	6 600.00	6 600.00
	Contribution to partner meetings, payment claims and partnership requirements	month	Period 3	1.00	6 600.00	6 600.00
	Contribution to partner meetings, payment claims and partnership requirements	month	Period 4	1.00	6 600.00	6 600.00
					Total	26 400.00

Staff costs			Long Term - WPLT			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
Full-time		month	Period 1	1.00	0.00	0.00
		month	Period 2	1.00	0.00	0.00
		month	Period 3	1.00	0.00	0.00
	Contribute to Transition roadmap guide	month	Period 4	3.00	6 600.00	19 800.00
					Total	19 800.00

Staff costs			Evaluation - WPT2			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
Full-time	Evaluation Plan, development of KPIs	month	Period 1	1.00	6 600.00	6 600.00
	Recommendations for HeatNet Model	month	Period 2	1.00	6 600.00	6 600.00
	Contribute to case study report cards	month	Period 3	2.00	6 600.00	13 200.00
	Contribute to evaluation report	month	Period 4	1.00	6 600.00	6 600.00
					Total	33 000.00

Staff costs			HeatNet Model - WPT3			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
Full-time	District Heating tools - Non technical Guide and How to build 4DHC	month	Period 1	1.00	6 600.00	6 600.00
	District Heating tools - Non technical Guide and How to build 4DHC	month	Period 2	2.00	6 600.00	13 200.00
	District Heating tools - Non technical Guide and How to build 4DHC	month	Period 3	2.00	6 600.00	13 200.00
	District Heating tools - Non technical Guide and How to build 4DHC	month	Period 4	2.00	6 600.00	13 200.00
					Total	46 200.00

Staff costs			Kortrijk Living Lab - WPI4			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
			Period 1	1.00	0.00	0.00
Full-time	Feasability study business case and Bi-Lateral support	month	Period 2	8.00	6 600.00	52 800.00
	Technical Study with dossier ready for procurement	month	Period 3	5.00	6 600.00	33 000.00
	Bi-Lateral Support	month	Period 4	3.00	6 600.00	19 800.00
					Total	105 600.00

Staff costs			Communication - WPC			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
Full-time	contribution to regional communication & dissemination , overall transnational and partnership communications strategy.	month	Period 1	0.50	6 600.00	3 300.00
	contribution to regional communication & dissemination , overall transnational and partnership communications strategy.	month	Period 2	2.00	6 600.00	13 200.00
	contribution to regional communication & dissemination , overall transnational and partnership communications strategy.	month	Period 3	2.00	6 600.00	13 200.00
	contribution to regional communication & dissemination , overall transnational and partnership communications strategy.	month	Period 4	2.00	6 600.00	13 200.00
					Total	42 900.00

Office and administration costs - real costs	
Are you using the flat rate for office and administration costs?	Yes
Flat rate percentage:	15.00 %
Project management - WPM	3 960.00
Long Term - WPLT	2 970.00
Evaluation - WPT2	4 950.00
HeatNet Model - WPT3	6 930.00
Plymouth Living Lab - WPI1	0.00
South Dublin Living Lab - WPI2	0.00
Aberdeen Living Lab - WPI3	0.00
Kortrijk Living Lab - WPI4	15 840.00
Heerlen Living Lab - WPI5	0.00
Boulogne sur Mer Living Lab - WPI6	0.00
Communication - WPC	6 435.00
Total:	41 085.00

Travel and accommodation		Project management - WPM			
Description	Unit type	Period	No. of units	Price per unit	Total
6 partner meetings (2d/meeting) + 3 wp meetings (1d) x 3 persons		Period 1	2.00	510.00	1 020.00
6 partner meetings (2d/meeting) + 3 wp meetings (1d) x 3 persons		Period 2	8.00	510.00	4 080.00
6 partner meetings (2d/meeting) + 3 wp meetings (1d) x 3 persons		Period 3	8.00	510.00	4 080.00
6 partner meetings (2d/meeting) + 3 wp meetings (1d) x 3 persons		Period 4	9.00	510.00	4 590.00
				Total	13 770.00

Travel and accommodation		Evaluation - WPT2			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
Travel for stakeholder interviews and Pilot Visits		Period 2	2.00	255.00	510.00
Travel for stakeholder interviews and Pilot Visits		Period 3	2.00	255.00	510.00
		Period 4	1.00	0.00	0.00
				Total	1 020.00

Travel and accommodation		Communication - WPC			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
Local, Regional and National Seminar and Meeting travel costs		Period 2	2.00	255.00	510.00
Local, Regional and National Seminar and Meeting travel costs		Period 3	2.00	255.00	510.00
Local, Regional and National Seminar and Meeting travel costs		Period 4	2.00	255.00	510.00
				Total	1 530.00

External expertise and services		Project management - WPM			
Description	Unit type	Period	No. of units	Price per unit	Total
FLC audits		Period 1	1.00	0.00	0.00
FLC audits		Period 2	2.00	2 000.00	4 000.00
FLC audits		Period 3	2.00	2 000.00	4 000.00
FLC audits		Period 4	3.00	2 000.00	6 000.00
				Total	14 000.00

External expertise and services		Evaluation - WPT2			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
Renting of Location for interviews		Period 2	3.00	500.00	1 500.00
		Period 3	1.00	0.00	0.00
		Period 4	1.00	0.00	0.00
				Total	1 500.00

External expertise and services		Communication - WPC			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
		Period 2	1.00	0.00	0.00
local/regional communication: promotion, communication, publicity or information (eg. printing, etc.), services related to the organisation, implementation and participation of events or meetings (eg. catering, etc;)		Period 3	1.00	3 500.00	3 500.00
		Period 4	1.00	0.00	0.00
				Total	3 500.00

Infrastructure and works		Project management - WPM			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
		Period 2	1.00	0.00	0.00
		Period 3	1.00	0.00	0.00
		Period 4	1.00	0.00	0.00
				Total	0.00

#printPartnerSumBudget($partner)

Name of partner organisation	Hogeschool van Amsterdam
Partner ID	9
Legal status	public
Type of partner	higher education and research
Co-financing source	ERDF
Outside (the Union part of) the programme area	No

Partner Budget		
	Amount	**Co-financing Rate**
Programme co-financing	217 089.60	60.00
Partner contribution	144 726.28	
Partner total eligible budget	361 815.88	

Origin of partner contribution (indicative)			
Source of contribution	**Legal status**	**% of total partner contribution**	**Amount**
Hogeschool van Amsterdam	public	100.00 %	144 726.36
Sub-total public contribution		100.00 %	144 726.36
Sub-total private contribution		0.00 %	0.00
Total		%	144 726.36
Partner total target value			144 726.28

In-kind contribution	
Is there any in-kind contribution included in the project budget for this partner?	no

Partner budget - breakdown per budget line (indicative)

Staff costs	
Are you using the flat rate for staff costs?	No
Project management - WPM	41 423.99
Long Term - WPLT	27 351.33
Evaluation - WPT2	190 737.06
HeatNet Model - WPT3	20 120.26
Plymouth Living Lab - WPI1	0.00
South Dublin Living Lab - WPI2	0.00
Aberdeen Living Lab - WPI3	0.00
Kortrijk Living Lab - WPI4	0.00
Heerlen Living Lab - WPI5	0.00
Boulogne sur Mer Living Lab - WPI6	0.00
Communication - WPC	4 120.38
Total:	283 753.02

Staff costs			Project management - WPM			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
Hourly basis	2 meetings 2 people 4 days + wp 3 leader 49 days	month	Period 1	0.61	7 221.76	4 405.27
	2 meetings 2 people 4 days + wp 3 leader 49 days	month	Period 2	1.79	7 042.82	12 606.64
	2 meetings 2 people 4 days + wp 3 leader	month	Period 3	1.73	7 055.52	12 206.04
		month	Period 4	1.73	7 055.52	12 206.04
					Total	41 423.99

Staff costs			Long Term - WPLT			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
Hourly basis		month	Period 1	1.00	0.00	0.00
	contribute to heat mapping, guide to non technical issues, business cases	month	Period 2	1.50	7 174.02	10 761.03
	contribute to heat mapping, guide to non technical issues, business cases	month	Period 3	1.60	7 254.79	11 607.66
	contribute to heat mapping, guide to non technical issues, business cases	month	Period 4	0.67	7 436.78	4 982.64
					Total	27 351.33

Staff costs			Evaluation - WPT2			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
Hourly basis	Lead WP and make Evaluation plan, set up interviews of 5 stakeholders at 6 pilots 2 times and analyses, pliot case descriptions;	month	Period 1	0.94	7 597.23	7 141.39
	Lead WP and make Evaluation plan, interviews of 5 stakeholders at 6 pilots 2 times and analyses, pliot case descriptions; recommendations to WP 4 HeatNet model and WP 5 Long Term Impact;		Period 2	9.81	7 485.63	73 434.03
	Lead WP and analyses, pliot case descriptions; recommendations to WP 4 HeatNet model and WP 5 Long Term Impact;		Period 3	7.77	7 537.91	58 569.56
	Lead WP and interviews of 5 stakeholders at 6 pilots 2 times and analyses, pliot case descriptions; recommendations to WP 4 HeatNet model and WP 5 Long Term Impact; Output: Evaluation report and summary booklet		Period 4	7.02	7 349.30	51 592.08
					Total	190 737.06

Staff costs			HeatNet Model - WPT3			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
	contribute to financing		Period 1	1.00	0.00	0.00
Hourly basis	contribute to financing	month	Period 2	1.30	6 649.17	8 643.92
	contribute to financing	month	Period 3	1.00	6 649.17	6 649.17
	contribute to financing	month	Period 4	0.73	6 612.57	4 827.17
					Total	20 120.26

Staff costs			Communication - WPC			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
Hourly basis		month	Period 1	1.00	0.00	0.00
	1 regional workshops with MRA stakeholders in Amsterdam region	month	Period 2	0.17	8 223.78	1 398.04
	1 regional workshops with MRA stakeholders in Amsterdam region	month	Period 3	0.17	8 223.78	1 398.04
	1 regional workshops with MRA stakeholders in Amsterdam region	month	Period 4	0.17	7 790.00	1 324.30
					Total	4 120.38

Office and administration costs - real costs	
Are you using the flat rate for office and administration costs?	Yes
Flat rate percentage:	15.00 %
Project management - WPM	6 213.58
Long Term - WPLT	4 102.68
Evaluation - WPT2	28 610.54
HeatNet Model - WPT3	3 018.02
Plymouth Living Lab - WPI1	0.00
South Dublin Living Lab - WPI2	0.00
Aberdeen Living Lab - WPI3	0.00
Kortrijk Living Lab - WPI4	0.00
Heerlen Living Lab - WPI5	0.00
Boulogne sur Mer Living Lab - WPI6	0.00
Communication - WPC	618.04
Total:	42 562.86

Travel and accommodation		Project management - WPM			
Description	Unit type	Period	No. of units	Price per unit	Total
1 meetings 3 people 4 nights (AUAS and AEB)		Period 1	1.50	1 520.00	2 280.00
2 meetings 2 people 4 nights		Period 2	2.00	1 520.00	3 040.00
2 meetings 2 people 4 nights		Period 3	2.00	1 520.00	3 040.00
2 meetings 2 people 4 nights AUAS, 1 meeting AEB		Period 4	2.50	1 520.00	3 800.00
				Total	12 160.00

Travel and accommodation		Evaluation - WPT2			
Description	Unit type	Period	No. of units	Price per unit	Total
travel to interview at 1 pilot		Period 1	1.00	445.00	445.00
travel and accomodation for interviews to 5 pilots 3 nights stay		Period 2	5.00	445.00	2 225.00
		Period 3	1.00	0.00	0.00
travel and accomodation for interviews to 6 pilots 3 nights stay		Period 4	6.00	445.00	2 670.00
				Total	5 340.00

External expertise and services		Project management - WPM			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
control costs (2 audits)		Period 2	2.00	2 000.00	4 000.00
control costs (2 audits)		Period 3	2.00	2 000.00	4 000.00
control costs (2 audits)		Period 4	2.00	2 000.00	4 000.00
				Total	12 000.00

External expertise and services		Communication - WPC			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
location and catering for 1 regional workshops		Period 2	1.00	2 000.00	2 000.00
location and catering for 1 regional workshops		Period 3	1.00	2 000.00	2 000.00
location and catering for 1 regional workshops		Period 4	1.00	2 000.00	2 000.00
				Total	6 000.00

#printPartnerSumBudget($partner)

Name of partner organisation	Les 7 Vents
Partner ID	10
Legal status	private
Type of partner	SME
Co-financing source	ERDF
Outside (the Union part of) the programme area	No

Partner Budget		
	Amount	**Co-financing Rate**
Programme co-financing	215 100.60	60.00
Partner contribution	143 400.06	
Partner total eligible budget	358 500.66	

Origin of partner contribution (indicative)			
Source of contribution	**Legal status**	**% of total partner contribution**	**Amount**
Les 7 Vents	private	10.00 %	14 340.00
ADEME, SDEM, Pays du Bessin au Virois, Region Normandie	public	80.00 %	114 720.27
Calvados Habitat	private	10.00 %	14 340.00
Sub-total public contribution		80.00 %	114 720.27
Sub-total private contribution		20.00 %	28 680.00
Total		%	143 400.27
Partner total target value			143 400.06

In-kind contribution	
Is there any in-kind contribution included in the project budget for this partner?	no

Partner budget - breakdown per budget line (indicative)

Staff costs	
Are you using the flat rate for staff costs?	No
Project management - WPM	34 255.26
Long Term - WPLT	79 928.94
Evaluation - WPT2	15 224.56
HeatNet Model - WPT3	79 928.94
Plymouth Living Lab - WPI1	0.00
South Dublin Living Lab - WPI2	0.00
Aberdeen Living Lab - WPI3	0.00
Kortrijk Living Lab - WPI4	0.00
Heerlen Living Lab - WPI5	0.00
Boulogne sur Mer Living Lab - WPI6	0.00
Communication - WPC	22 836.84
Total:	232 174.54

Staff costs			Project management - WPM			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
Hourly basis	Project launch	month	Period 1	2.00	3 806.14	7 612.28
	Project implementation	month	Period 2	2.00	3 806.14	7 612.28
	Project implementation	month	Period 3	2.00	3 806.14	7 612.28
	Project implementation and closure	month	Period 4	3.00	3 806.14	11 418.42
					Total	34 255.26

Staff costs			Long Term - WPLT			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
Hourly basis	Heat map + contributions to other activities	month	Period 1	3.00	3 806.14	11 418.42
	Roadmap 1st version + contributions to other activities	month	Period 2	6.00	3 806.14	22 836.84
	Local roadmap adapted + contributions to other activities	month	Period 3	6.00	3 806.14	22 836.84
	Contributions to roadmap guidance + contributions to other activities	month	Period 4	6.00	3 806.14	22 836.84
					Total	79 928.94

Staff costs			Evaluation - WPT2			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
Hourly basis	Contribution to evaluation. PLAN	month	Period 1	1.00	3 806.14	3 806.14
	DO	month	Period 2	1.00	3 806.14	3 806.14
	CHECK	month	Period 3	1.00	3 806.14	3 806.14
	ACT	month	Period 4	1.00	3 806.14	3 806.14
					Total	15 224.56

Staff costs			HeatNet Model - WPT3			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
Hourly basis	Study on opportunity of the scheme + contributions to other activities	month	Period 1	3.00	3 806.14	11 418.42
	Equipment and launch of the end user campaign + contributions to other activities	month	Period 2	6.00	3 806.14	22 836.84
	Production of feedback and adaptations + contributions to other activities	month	Period 3	6.00	3 806.14	22 836.84
	Production of guidance + contributions to other activities	month	Period 4	6.00	3 806.14	22 836.84
					Total	79 928.94

Staff costs			Communication - WPC			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
Hourly basis	Making of general docs + webpage	month	Period 1	2.00	3 806.14	7 612.28
	Organisation of travel for stakeholders	month	Period 2	1.00	3 806.14	3 806.14
	Organisation of travel for stakeholders	month	Period 3	1.00	3 806.14	3 806.14
	Organisation of travel for stakeholders + impact documentation	month	Period 4	2.00	3 806.14	7 612.28
					Total	22 836.84

Office and administration costs - real costs	
Are you using the flat rate for office and administration costs?	Yes
Flat rate percentage:	15.00 %
Project management - WPM	5 138.28
Long Term - WPLT	11 989.32
Evaluation - WPT2	2 283.68
HeatNet Model - WPT3	11 989.32
Plymouth Living Lab - WPI1	0.00
South Dublin Living Lab - WPI2	0.00
Aberdeen Living Lab - WPI3	0.00
Kortrijk Living Lab - WPI4	0.00
Heerlen Living Lab - WPI5	0.00
Boulogne sur Mer Living Lab - WPI6	0.00
Communication - WPC	3 425.52
Total:	34 826.12

Travel and accommodation		Project management - WPM			
Description	Unit type	Period	No. of units	Price per unit	Total
Travel and accommodation for partner meeting participation - internal 7 Vents. 2 people 1 meeting		Period 1	2.00	750.00	1 500.00
2 people 2 meetings		Period 2	4.00	750.00	3 000.00
2 people 2 meetings		Period 3	4.00	750.00	3 000.00
2 people 2 meetings		Period 4	4.00	750.00	3 000.00
				Total	10 500.00

Travel and accommodation		Communication - WPC			
Description	Unit type	Period	No. of units	Price per unit	Total
Travel and accommodation for partner meeting "on side" participation - local stakeholders.		Period 1	1.00	0.00	0.00
2 Workshops, site visits, trainings, 2 people		Period 2	4.00	750.00	3 000.00
2 Workshops, site visits, trainings, 2 people		Period 3	4.00	750.00	3 000.00
2 Workshops, site visits, trainings, 2 people		Period 4	4.00	750.00	3 000.00
				Total	9 000.00

External expertise and services		Long Term - WPLT			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
		Period 2	1.00	0.00	0.00
Feasibility studies		Period 3	2.00	20 000.00	40 000.00
		Period 4	1.00	0.00	0.00
				Total	40 000.00

External expertise and services		Communication - WPC			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
Project french promotional documentation		Period 2	500.00	2.00	1 000.00
		Period 3	1.00	0.00	0.00
Project french promotional documentation		Period 4	500.00	2.00	1 000.00
				Total	2 000.00

Equipment		HeatNet Model - WPT3			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
20 apartments individual meters @ 1 500€		Period 2	20.00	1 500.00	30 000.00
		Period 3	1.00	0.00	0.00
		Period 4	1.00	0.00	0.00
				Total	30 000.00

#printPartnerSumBudget($partner)

Name of partner organisation	Aberdeen City Council
Partner ID	11
Legal status	public
Type of partner	local public authority
Co-financing source	ERDF
Outside (the Union part of) the programme area	No

Partner Budget		
	Amount	**Co-financing Rate**
Programme co-financing	608 485.20	60.00
Partner contribution	405 657.30	
Partner total eligible budget	1 014 142.50	

Origin of partner contribution (indicative)			
Source of contribution	**Legal status**	**% of total partner contribution**	**Amount**
Aberdeen City Council	public	100.00 %	405 657.00
Sub-total public contribution		100.00 %	405 657.00
Sub-total private contribution		0.00 %	0.00
Total		%	405 657.00
Partner total target value			405 657.30

In-kind contribution	
Is there any in-kind contribution included in the project budget for this partner?	no

Partner budget - breakdown per budget line (indicative)

Staff costs	
Are you using the flat rate for staff costs?	No
Project management - WPM	7 600.00
Long Term - WPLT	42 550.00
Evaluation - WPT2	25 900.00
HeatNet Model - WPT3	38 850.00
Plymouth Living Lab - WPI1	0.00
South Dublin Living Lab - WPI2	0.00
Aberdeen Living Lab - WPI3	24 650.00
Kortrijk Living Lab - WPI4	0.00
Heerlen Living Lab - WPI5	0.00
Boulogne sur Mer Living Lab - WPI6	0.00
Communication - WPC	44 400.00
Total:	183 950.00

Staff costs			Project management - WPM			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
Full-time	1 ACC Officer time at an average cost of 3,800 Euros	month	Period 1	0.50	3 800.00	1 900.00
	1 ACC Officer time at an average cost of 3,800 Euros	month	Period 2	0.50	3 800.00	1 900.00
	1 ACC Officer time at an average cost of 3,800 Euros	month	Period 3	0.50	3 800.00	1 900.00
	1 ACC Officer time at an average cost of 3,800 Euros	month	Period 4	0.50	3 800.00	1 900.00
					Total	7 600.00

Staff costs			Long Term - WPLT			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
Full-time	ACC Project Officer time analyse, evaluate information gathered for long term impact	month	Period 1	0.00	0.00	0.00
	ACC Project Officer time analyse, evaluate information gathered for long term impact	month	Period 2	4.00	3 700.00	14 800.00
	ACC Project Officer time analyse, evaluate information gathered for long term impact	month	Period 3	4.50	3 700.00	16 650.00
	ACC Project Officer time analyse, evaluate information gathered for long term impact	month	Period 4	3.00	3 700.00	11 100.00
					Total	42 550.00

Staff costs			Evaluation - WPT2			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
	Officer time for evaluation of data at an average cost of 3,700		Period 1	1.00	0.00	0.00
	Officer time for evaluation of data at an average cost of 3,700		Period 2	1.50	3 700.00	5 550.00
	Officer time for evaluation of data at an average cost of 3,700		Period 3	3.00	3 700.00	11 100.00
	Officer time for evaluation of data at an average cost of 3,700		Period 4	2.50	3 700.00	9 250.00
					Total	25 900.00

Staff costs			HeatNet Model - WPT3			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
Full-time	Officer time at average 3,700 E per month to develop the HeatNet model for Aberdeen	month	Period 1	1.00	3 700.00	3 700.00
	Officer time at average 3,700 E per month to develop the HeatNet model for Aberdeen	month	Period 2	3.00	3 700.00	11 100.00
	Officer time at average 3,700 E per month to develop the HeatNet model for Aberdeen	month	Period 3	3.00	3 700.00	11 100.00
	Officer time at average 3,700 E per month to develop the HeatNet model for Aberdeen	month	Period 4	3.50	3 700.00	12 950.00
					Total	38 850.00

Staff costs			Aberdeen Living Lab - WPI3			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
Full-time	ACC Officer time for involvment and planning of pilot	month	Period 1	0.50	3 700.00	1 850.00
	ACC Officer time for involvment and planning of pilot	month	Period 2	2.00	3 800.00	7 600.00
	ACC Officer time for involvment and planning of pilot	month	Period 3	2.00	3 800.00	7 600.00
	ACC Officer time for involvment and planning of pilot	month	Period 4	2.00	3 800.00	7 600.00
					Total	24 650.00

Staff costs			Communication - WPC			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
Full-time	1 ACC Officer/Aberdeen Heat & Power Officer time for engagement at an average cost of 3,700Euros per month for stakeholder engagement	month	Period 1	1.00	0.00	0.00
	1 ACC Officer/Aberdeen Heat & Power Officer time for engagement at an average cost of 3,700Euros per month for stakeholder engagement	month	Period 2	6.00	3 700.00	22 200.00
	1 ACC Officer/Aberdeen Heat & Power Officer time for engagement at an average cost of 3,700Euros per month for stakeholder engagement	month	Period 3	3.00	3 700.00	11 100.00
	1 ACC Officer/Aberdeen Heat & Power Officer time for engagement at an average cost of 3,700Euros per month for stakeholder engagement	month	Period 4	3.00	3 700.00	11 100.00
					Total	44 400.00

Office and administration costs - real costs	
Are you using the flat rate for office and administration costs?	Yes
Flat rate percentage:	15.00 %
Project management - WPM	1 140.00
Long Term - WPLT	6 382.50
Evaluation - WPT2	3 885.00
HeatNet Model - WPT3	5 827.50
Plymouth Living Lab - WPI1	0.00
South Dublin Living Lab - WPI2	0.00
Aberdeen Living Lab - WPI3	3 697.50
Kortrijk Living Lab - WPI4	0.00
Heerlen Living Lab - WPI5	0.00
Boulogne sur Mer Living Lab - WPI6	0.00
Communication - WPC	6 660.00
Total:	27 592.50

Travel and accommodation		Project management - WPM			
Description	Unit type	Period	No. of units	Price per unit	Total
2 Officers to attend PM and evaluation meetings		Period 1	2.00	500.00	1 000.00
2 Officers to attend PM and evaluation meetings		Period 2	4.00	800.00	3 200.00
2 Officers to attend PM and evaluation meetings		Period 3	4.00	800.00	3 200.00
2 Officers to attend PM and evaluation meetings and Final Conference		Period 4	4.00	800.00	3 200.00
				Total	10 600.00

External expertise and services		Project management - WPM			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
Partner meeting costs Aberdeen		Period 2	1.00	1 000.00	1 000.00
		Period 3	1.00	0.00	0.00
		Period 4	1.00	0.00	0.00
				Total	1 000.00

External expertise and services		Long Term - WPLT			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
External Consultant to develop Feasibility Study for Demonstration Project/ External Consultant to look at the integration and design options for 4DHC		Period 2	50.00	700.00	35 000.00
External Consultant to develop Feasibility Study for Demonstration Project/ External Consultant to look at the integration and design options for 4DHC		Period 3	70.00	700.00	49 000.00
		Period 4	1.00	0.00	0.00
				Total	84 000.00

External expertise and services		Evaluation - WPT2			
Description	Unit type	Period	No. of units	Price per unit	Total
Stakeholder Meetings and Information Summaries		Period 1	1.00	0.00	0.00
Stakeholder Meetings and Information Summaries		Period 2	2.00	1 500.00	3 000.00
Stakeholder Meetings and Information Summaries		Period 3	2.00	1 500.00	3 000.00
Stakeholder Meetings and Information Summaries		Period 4	2.00	1 500.00	3 000.00
				Total	9 000.00

External expertise and services		Aberdeen Living Lab - WPI3			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
Project Manager for the district heat network		Period 2	25.00	700.00	17 500.00
Project Manager for the district heat network		Period 3	35.00	700.00	24 500.00
Project Manager for the district heat network		Period 4	30.00	700.00	21 000.00
				Total	63 000.00

Infrastructure and works		Aberdeen Living Lab - WPI3			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
		Period 2	0.00	0.00	0.00
Boilers (10%) Network Connection and distribution pipes (40%) Civil Works (50%)		Period 3	1.00	635 000.00	635 000.00
		Period 4	1.00	0.00	0.00
				Total	635 000.00

#printPartnerSumBudget($partner)

Name of partner organisation	Mijnwater B.V.
Partner ID	12
Legal status	private
Type of partner	SME
Co-financing source	ERDF
Outside (the Union part of) the programme area	No

Partner Budget		
	Amount	**Co-financing Rate**
Programme co-financing	979 147.20	60.00
Partner contribution	652 764.91	
Partner total eligible budget	1 631 912.11	

Origin of partner contribution (indicative)			
Source of contribution	**Legal status**	**% of total partner contribution**	**Amount**
Mijnwater B.V.	private	0.00 %	0.00
Province of Limburg	public	100.00 %	652 764.85
Sub-total public contribution		100.00 %	652 764.85
Sub-total private contribution		0.00 %	0.00
Total		%	652 764.85
Partner total target value			652 764.91

In-kind contribution	
Is there any in-kind contribution included in the project budget for this partner?	no

Partner budget - breakdown per budget line (indicative)

Staff costs	
Are you using the flat rate for staff costs?	Yes
Flat rate amount:	20.00
Project management - WPM	1 849.16
Long Term - WPLT	0.00
Evaluation - WPT2	2 115.40
HeatNet Model - WPT3	0.00
Plymouth Living Lab - WPI1	0.00
South Dublin Living Lab - WPI2	0.00
Aberdeen Living Lab - WPI3	0.00
Kortrijk Living Lab - WPI4	0.00
Heerlen Living Lab - WPI5	261 387.00
Boulogne sur Mer Living Lab - WPI6	0.00
Communication - WPC	0.00
Total:	265 351.56

Office and administration costs - real costs	
Are you using the flat rate for office and administration costs?	Yes
Flat rate percentage:	15.00 %
Project management - WPM	277.36
Long Term - WPLT	0.00
Evaluation - WPT2	317.31
HeatNet Model - WPT3	0.00
Plymouth Living Lab - WPI1	0.00
South Dublin Living Lab - WPI2	0.00
Aberdeen Living Lab - WPI3	0.00
Kortrijk Living Lab - WPI4	0.00
Heerlen Living Lab - WPI5	39 208.04
Boulogne sur Mer Living Lab - WPI6	0.00
Communication - WPC	0.00
Total:	39 802.71

Travel and accommodation		Project management - WPM			
Description	Unit type	Period	No. of units	Price per unit	Total
1 management meetings (nights, travel, daily all. for 2 persons)		Period 1	1.00	0.00	0.00
2 management meetings (nights, travel, daily all. for 2 persons)		Period 2	4.00	654.73	2 618.92
2 management meetings (nights, travel, daily all. for 2 persons)		Period 3	4.00	654.73	2 618.92
2 management meetings (nights, travel, daily all. for 2 persons) and a closing conference		Period 4	6.00	668.00	4 008.00
				Total	9 245.84

Travel and accommodation		Evaluation - WPT2			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
visiting mentor sites 2 persons/2 sites		Period 2	1.00	2 859.00	2 859.00
visiting mentor sites 2 persons/2 sites		Period 3	1.00	2 859.00	2 859.00
visiting mentor sites 2 persons/2 sites		Period 4	1.00	2 859.00	2 859.00
				Total	8 577.00

Travel and accommodation		Communication - WPC			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
		Period 2	1.00	0.00	0.00
		Period 3	1.00	0.00	0.00
		Period 4	1.00	0.00	0.00
				Total	0.00

External expertise and services		Evaluation - WPT2			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
		Period 2	1.00	0.00	0.00
		Period 3	1.00	0.00	0.00
catering & accomodation for workshop Heerlen		Period 4	1.00	2 000.00	2 000.00
				Total	2 000.00

External expertise and services		Communication - WPC			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
		Period 2	1.00	0.00	0.00
		Period 3	1.00	0.00	0.00
		Period 4	1.00	0.00	0.00
				Total	0.00

Infrastructure and works		Heerlen Living Lab - WPI5			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
Expanding Cluster D Grid: New Grid 2 Pipe system. Clusterbasements 1680 - 2520 kW: Connection to Grid, Basement Installations + construction. Multifunctional Centre Hoensbroek: New Grid 2 Pipe system. Connection to Grid + Building Energy Plant (50% cost)		Period 2	1.00	653 467.50	653 467.50
Expanding Cluster D Grid: New Grid 2 Pipe system. Clusterbasements 1680 - 2520 kW: Connection to Grid, Basement Installations + construction. Multifunctional Centre Hoensbroek: New Grid 2 Pipe system. Connection to Grid + Building Energy Plant (50% cost)		Period 3	1.00	653 467.50	653 467.50
		Period 4	1.00	0.00	0.00
				Total	1 306 935.00

#printPartnerSumBudget($partner)

Name of partner organisation	South Dublin County Council
Partner ID	13
Legal status	public
Type of partner	local public authority
Co-financing source	ERDF
Outside (the Union part of) the programme area	No

Partner Budget		
	Amount	**Co-financing Rate**
Programme co-financing	564 643.80	60.00
Partner contribution	376 429.20	
Partner total eligible budget	941 073.00	

Origin of partner contribution (indicative)			
Source of contribution	**Legal status**	**% of total partner contribution**	**Amount**
South Dublin County Council	public	100.00 %	376 429.20
Sub-total public contribution		100.00 %	376 429.20
Sub-total private contribution		0.00 %	0.00
Total		%	376 429.20
Partner total target value			376 429.20

In-kind contribution	
Is there any in-kind contribution included in the project budget for this partner?	no

Partner budget - breakdown per budget line (indicative)

Staff costs	
Are you using the flat rate for staff costs?	Yes
Flat rate amount:	20.00
Project management - WPM	3 600.00
Long Term - WPLT	0.00
Evaluation - WPT2	0.00
HeatNet Model - WPT3	0.00
Plymouth Living Lab - WPI1	0.00
South Dublin Living Lab - WPI2	146 340.00
Aberdeen Living Lab - WPI3	0.00
Kortrijk Living Lab - WPI4	0.00
Heerlen Living Lab - WPI5	0.00
Boulogne sur Mer Living Lab - WPI6	0.00
Communication - WPC	3 080.00
Total:	153 020.00

Office and administration costs - real costs	
Are you using the flat rate for office and administration costs?	Yes
Flat rate percentage:	15.00 %
Project management - WPM	540.00
Long Term - WPLT	0.00
Evaluation - WPT2	0.00
HeatNet Model - WPT3	0.00
Plymouth Living Lab - WPI1	0.00
South Dublin Living Lab - WPI2	21 951.00
Aberdeen Living Lab - WPI3	0.00
Kortrijk Living Lab - WPI4	0.00
Heerlen Living Lab - WPI5	0.00
Boulogne sur Mer Living Lab - WPI6	0.00
Communication - WPC	462.00
Total:	22 953.00

Travel and accommodation		Project management - WPM			
Description	Unit type	Period	No. of units	Price per unit	Total
Cost of travel to preparation meetings		Period 1	2.50	400.00	1 000.00
2 people attending 2 partner meetings		Period 2	4.00	750.00	3 000.00
2 people attending 2 partner meetings		Period 3	4.00	750.00	3 000.00
2 people attending 2 partner meetings and 1 Final Conference		Period 4	6.00	750.00	4 500.00
				Total	11 500.00

Travel and accommodation		Communication - WPC			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
Travel Costs for regional events for 4 people		Period 2	4.00	250.00	1 000.00
Travel Costs for regional events for 4 people		Period 3	4.00	250.00	1 000.00
4 Representatives on study visits		Period 4	4.00	600.00	2 400.00
				Total	4 400.00

External expertise and services		Project management - WPM			
Description	Unit type	Period	No. of units	Price per unit	Total
FLC cost of €750 per payment claim		Period 1	1.00	750.00	750.00
FLC cost of €750 per payment claim (2 claims)		Period 2	2.00	750.00	1 500.00
FLC cost of €750 per payment claim (2 claims)		Period 3	2.00	750.00	1 500.00
2 Payment Claims @ €750 each and an on the spot check at €1,250.		Period 4	2.00	1 375.00	2 750.00
				Total	6 500.00

External expertise and services		South Dublin Living Lab - WPI2			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
Feasability of various supply options and Monitoring @ 800 per day		Period 2	13.00	800.00	10 400.00
Scoping of groundworks, Monitoring @ 800 per day		Period 3	13.00	800.00	10 400.00
Monitoring & Evaluation @ 800 per day		Period 4	13.00	800.00	10 400.00
				Total	31 200.00

External expertise and services		Communication - WPC			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
		Period 2	1.00	0.00	0.00
1 seminar participation		Period 3	1.00	1 000.00	1 000.00
"I partner meeting hosting@ 5k 1 seminar participation @ 1k 1 printing costs @ 3k 1 Poster print @ 1k"		Period 4	4.00	2 500.00	10 000.00
				Total	11 000.00

Equipment		South Dublin Living Lab - WPI2			
Description	Unit type	Period	No. of units	Price per unit	Total
5 Monitoring tools @ €2,500 each		Period 1	5.00	2 500.00	12 500.00
		Period 2	1.00	0.00	0.00
		Period 3	1.00	0.00	0.00
		Period 4	1.00	0.00	0.00
				Total	12 500.00

Infrastructure and works		South Dublin Living Lab - WPI2			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
Contract costs for pipeline purchase and installation from energy centre to hospital and energy centre to County Hall. Additional costs for purchase and installation of heat exchangers (approx €95,000)		Period 2	1.00	150 000.00	150 000.00
Contract costs for pipeline purchase and installation from energy centre to hospital and energy centre to County Hall. Additional costs for purchase and installation of heat exchangers (approx €95,000)		Period 3	1.00	300 000.00	300 000.00
Contract costs for pipeline purchase and installation from energy centre to hospital and energy centre to County Hall. Additional costs for purchase and installation of heat exchangers (approx €95,000)		Period 4	1.00	238 000.00	238 000.00
				Total	688 000.00

#printPartnerSumBudget($partner)

Name of partner organisation	Centre d'études et d'expertise sur les risques, l'environnement, la mobilité et l'aménagement
Partner ID	14
Legal status	public
Type of partner	local public authority
Co-financing source	ERDF
Outside (the Union part of) the programme area	No

Partner Budget		
	Amount	**Co-financing Rate**
Programme co-financing	116 239.20	60.00
Partner contribution	77 492.63	
Partner total eligible budget	193 731.83	

Origin of partner contribution (indicative)			
Source of contribution	**Legal status**	**% of total partner contribution**	**Amount**
Centre d'études et d'expertise sur les risques, l'environnement, la mobilité et l'aménagement	public	0.00 %	0.00
French Environment Monistry	public	100.00 %	77 492.74
Sub-total public contribution		100.00 %	77 492.74
Sub-total private contribution		0.00 %	0.00
Total		%	77 492.74
Partner total target value			77 492.63

In-kind contribution	
Is there any in-kind contribution included in the project budget for this partner?	no

Partner budget - breakdown per budget line (indicative)

Staff costs	
Are you using the flat rate for staff costs?	No
Project management - WPM	11 070.73
Long Term - WPLT	31 428.30
Evaluation - WPT2	8 198.67
HeatNet Model - WPT3	74 471.41
Plymouth Living Lab - WPI1	0.00
South Dublin Living Lab - WPI2	0.00
Aberdeen Living Lab - WPI3	0.00
Kortrijk Living Lab - WPI4	0.00
Heerlen Living Lab - WPI5	0.00
Boulogne sur Mer Living Lab - WPI6	13 117.88
Communication - WPC	9 565.11
Total:	147 852.10

Staff costs			Project management - WPM			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
Full-time	the price/unit cost is the monthly average employee cost for the 2 employees of the cerema that will work on the heatnet project :	month	Period 1	0.24	6 832.24	1 639.73
	the price/unit cost is the monthly average employee cost for the 2 employees of the cerema that will work on the heatnet project :	month	Period 2	0.48	6 832.24	3 279.47
	the price/unit cost is the monthly average employee cost for the 2 employees of the cerema that will work on the heatnet project :	month	Period 3	0.48	6 832.24	3 279.47
	the price/unit cost is the monthly average employee cost for the 2 employees of the cerema that will work on the heatnet project :	month	Period 4	0.42	6 838.24	2 872.06
					Total	11 070.73

Staff costs			Long Term - WPLT			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
Full-time		month	Period 1	0.60	6 832.24	4 099.34
		month	Period 2	3.00	6 832.24	20 496.72
		month	Period 3	0.50	6 832.24	3 416.12
		month	Period 4	0.50	6 832.24	3 416.12
					Total	31 428.30

Staff costs			Evaluation - WPT2			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
Full-time		month	Period 1	0.00	6 832.24	0.00
		month	Period 2	0.40	6 832.24	2 732.89
		month	Period 3	0.20	6 832.24	1 366.44
		month	Period 4	0.60	6 832.24	4 099.34
					Total	8 198.67

Staff costs			HeatNet Model - WPT3			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
Full-time	lead heatnet wp : 10 days. non technical guide to DHC : 60 days. extend tool to economicaly compare dhc with conventional heating : 50 days. Heat mapping tool : 60 days. average day per month : 16,6.	month	Period 1	0.90	6 832.24	6 149.01
	lead heatnet wp : 10 days. non technical guide to DHC : 60 days. extend tool to economicaly compare dhc with conventional heating : 50 days. Heat mapping tool : 60 days. average day per month : 16,6.	month	Period 2	2.00	6 832.24	13 664.48
	lead heatnet wp : 10 days. non technical guide to DHC : 60 days. extend tool to economicaly compare dhc with conventional heating : 50 days. Heat mapping tool : 60 days. average day per month : 16,6.	month	Period 3	2.00	6 832.24	13 664.48
	lead heatnet wp : 10 days. non technical guide to DHC : 60 days. extend tool to economicaly compare dhc with conventional heating : 50 days. Heat mapping tool : 60 days. average day per month : 16,6.	month	Period 4	6.00	6 832.24	40 993.44
					Total	74 471.41

Staff costs			Boulogne sur Mer Living Lab - WPI6			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
Full-time	bilateral support for the local roadmap of boulogne	month	Period 1	0.18	6 832.24	1 229.80
	bilateral support for the local roadmap of boulogne	month	Period 2	1.20	6 832.24	8 198.68
	bilateral support for the local roadmap of boulogne	month	Period 3	0.18	6 832.24	1 229.80
	bilateral support for the local roadmap of boulogne	month	Period 4	0.36	6 832.24	2 459.60
					Total	13 117.88

Staff costs			Communication - WPC			
Type of staff	Comments	Unit type	Period	No. of units	Price per unit	Total
Full-time	Participation in communications work plan	month	Period 1	0.40	6 832.24	2 732.89
	Contribution to transnational communication activities	month	Period 2	0.20	6 832.24	1 366.44
	Contribution to transnational communication activities	month	Period 3	0.20	6 832.24	1 366.44
	Contribution to transnational communication activities and final conference with requisite dissemination activity.	month	Period 4	0.60	6 832.24	4 099.34
					Total	9 565.11

Office and administration costs - real costs	
Are you using the flat rate for office and administration costs?	Yes
Flat rate percentage:	15.00 %
Project management - WPM	1 660.59
Long Term - WPLT	4 714.22
Evaluation - WPT2	1 229.79
HeatNet Model - WPT3	11 170.70
Plymouth Living Lab - WPI1	0.00
South Dublin Living Lab - WPI2	0.00
Aberdeen Living Lab - WPI3	0.00
Kortrijk Living Lab - WPI4	0.00
Heerlen Living Lab - WPI5	0.00
Boulogne sur Mer Living Lab - WPI6	1 967.68
Communication - WPC	1 434.75
Total:	22 177.73

Travel and accommodation		Project management - WPM			
Description	Unit type	Period	No. of units	Price per unit	Total
meeting herleen and aberdeen		Period 1	1.00	1 520.00	1 520.00
meeting boulogne and plymouth		Period 2	1.00	2 400.00	2 400.00
meeting Kortijk		Period 3	1.00	1 770.00	1 770.00
Final conference		Period 4	2.00	880.00	1 760.00
				Total	7 450.00

Travel and accommodation		HeatNet Model - WPT3			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
meeting with Codema and Universities		Period 2	1.00	1 520.00	1 520.00
meeting with Codema and Universities		Period 3	1.00	1 520.00	1 520.00
meeting with Codema and Universities		Period 4	2.00	1 520.00	3 040.00
				Total	6 080.00

Travel and accommodation		Boulogne sur Mer Living Lab - WPI6			
Description	Unit type	Period	No. of units	Price per unit	Total
Site visits		Period 1	4.00	250.00	1 000.00
		Period 2	1.00	0.00	0.00
		Period 3	1.00	0.00	0.00
		Period 4	1.00	0.00	0.00
				Total	1 000.00

Travel and accommodation		Communication - WPC			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
		Period 2	1.00	490.00	490.00
		Period 3	1.00	0.00	0.00
		Period 4	1.00	490.00	490.00
				Total	980.00

External expertise and services		Project management - WPM			
Description	Unit type	Period	No. of units	Price per unit	Total
first level control costs		Period 1	1.00	0.00	0.00
first level control costs		Period 2	2.00	659.00	1 318.00
first level control costs		Period 3	2.00	659.00	1 318.00
first level control costs		Period 4	2.00	659.00	1 318.00
				Total	3 954.00

External expertise and services		Communication - WPC			
Description	Unit type	Period	No. of units	Price per unit	Total
		Period 1	1.00	0.00	0.00
french conference		Period 2	1.00	0.00	0.00
french conference		Period 3	1.00	4 238.00	4 238.00
		Period 4	1.00	0.00	0.00
				Total	4 238.00

#printPartnerSumBudget($partner)

Periods

Period number	Duration (months)	Start date	End date	Reporting date
1	1	Sep-2016	Dec-2016	Dec-2016
2	1	Jan-2017	Dec-2017	Dec-2017
3	1	Jan-2018	Dec-2018	Dec-2018
4	1	Jan-2019	Jul-2020	Aug-2019

Activities outside the programme area

What is the added value of activities to be carried out outside programme area? If applicable, please list the relevant activities and describe how they will benefit the programme area.	
Total budget	0.00
ERDF outside	0.00
% of total ERDF	0.00

Project Budget

Project budget per co-financing source (fund) - breakdown per partner

Partner			Programme co-financing			Contribution			Total eligible
Partner nr	Partner abbreviation	Country	ERDF	ERDF co-financing (percent)	Percentage of total ERDF	Public contribution	Private contribution	Total contribution	
1 -	Codema	IE	690 253.51	60.00 %	9.98 %	0.00	460 169.01	460 169.01	1 150 422.52
2 -	PCC	UK	1 045 401.35	60.00 %	15.12 %	696 934.24	0.00	696 934.24	1 742 335.59
3 -	CAP 2020	BE	241 813.10	60.00 %	3.50 %	120 906.56	40 302.18	161 208.74	403 021.84
4 -	Kortrijk	BE	809 401.50	60.00 %	11.71 %	539 601.00	0.00	539 601.00	1 349 002.50
5 -	Leiedal	BE	179 850.00	60.00 %	2.60 %	119 900.00	0.00	119 900.00	299 750.00
6 -	ECN	FR	190 009.50	60.00 %	2.75 %	0.00	126 673.00	126 673.00	316 682.50
7 -	BsM	FR	846 293.76	60.00 %	12.24 %	564 195.84	0.00	564 195.84	1 410 489.60
8 -	UoG	BE	210 183.00	60.00 %	3.04 %	140 122.00	0.00	140 122.00	350 305.00
9 -	HvA	NL	217 089.52	60.00 %	3.14 %	144 726.36	0.00	144 726.36	361 815.88
10 -	L7V	FR	215 100.39	60.00 %	3.11 %	114 720.27	28 680.00	143 400.27	358 500.66
11 -	ACC	UK	608 485.50	60.00 %	8.80 %	405 657.00	0.00	405 657.00	1 014 142.50
12 -	Mijnwater	NL	979 147.26	60.00 %	14.16 %	652 764.85	0.00	652 764.85	1 631 912.11
13 -	SDCC	IE	564 643.80	60.00 %	8.17 %	376 429.20	0.00	376 429.20	941 073.00
14 -	CER	FR	116 239.09	60.00 %	1.68 %	77 492.74	0.00	77 492.74	193 731.83
Sub-total for partners inside			6 913 911.28	--	100.00 %	3 953 450.06	655 824.19	4 609 274.25	11 523 185.53
Sub-total for partners outside			0.00	--	0.00 %	0.00	0.00	0.00	0.00
Total			6 913 911.28	--	100,00 %	3 953 450.06	655 824.19	4 609 274.25	11 523 185.53

Project budget - overview per partner / per budget line

Partner abbreviation	Co-financing Source	Staff costs	Office and administration	Travel and accommodation	External expertise and services	Equipment	Infrastructure and works	Total budget	Net revenue	Total eligible
Codema	ERDF	852 150.00	127 822.50	18 200.02	152 250.00	0.00	0.00	1 150 422.52	0.00	1 150 422.52
PCC	ERDF	283 306.60	42 495.99	12 680.00	249 298.00	1 200.00	1 153 355.00	1 742 335.59	0.00	1 742 335.59
CAP 2020	ERDF	274 862.50	41 229.34	27 500.00	59 430.00	0.00	0.00	403 021.84	0.00	403 021.84
Kortrijk	ERDF	219 350.00	32 902.50	12 750.00	404 000.00	80 000.00	600 000.00	1 349 002.50	0.00	1 349 002.50
Leiedal	ERDF	210 000.00	31 500.00	11 000.00	47 250.00	0.00	0.00	299 750.00	0.00	299 750.00
ECN	ERDF	261 200.00	39 180.00	16 302.50	0.00	0.00	0.00	316 682.50	0.00	316 682.50
BsM	ERDF	150 864.00	22 629.60	6 821.00	237 900.00	17 275.00	975 000.00	1 410 489.60	0.00	1 410 489.60
UoG	ERDF	273 900.00	41 085.00	16 320.00	19 000.00	0.00	0.00	350 305.00	0.00	350 305.00
HvA	ERDF	283 753.02	42 562.86	17 500.00	18 000.00	0.00	0.00	361 815.88	0.00	361 815.88
L7V	ERDF	232 174.54	34 826.12	19 500.00	42 000.00	30 000.00	0.00	358 500.66	0.00	358 500.66
ACC	ERDF	183 950.00	27 592.50	10 600.00	157 000.00	0.00	635 000.00	1 014 142.50	0.00	1 014 142.50
Mijnwater	ERDF	265 351.56	39 802.71	17 822.84	2 000.00	0.00	1 306 935.00	1 631 912.11	0.00	1 631 912.11
SDCC	ERDF	153 020.00	22 953.00	15 900.00	48 700.00	12 500.00	688 000.00	941 073.00	0.00	941 073.00
CER	ERDF	147 852.10	22 177.73	15 510.00	8 192.00	0.00	0.00	193 731.83	0.00	193 731.83
Total		3 791 734.32	568 759.85	218 406.36	1 445 020.00	140 975.00	5 358 290.00	11 523 185.53	0.00	11 523 185.53
Percentage of total budget		32.91 %	4.94 %	1.90 %	12.54 %	1.22 %	46.50 %	100,00 %	0.00 %	100.00 %

Co-financing source	Staff costs	Office and administration	Travel and accommodation	External expertise and services	Equipment	Infrastructure and works	Sum financed budget	Decreasing net revenue	Total financed budget
ERDF	3 791 734.32	568 759.85	218 406.36	1 445 020.00	140 975.00	5 358 290.00	11 523 185.53	0.00	11 523 185.53
ERDF equivalent	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Project budget - overview per WP / per budget line

WP number	Staff costs	Office and administration	Travel and accommodation	External expertise and services	Equipment	Infrastructure and works	Total budget	Net revenue	Total eligible
WP M	749 384.84	112 407.66	140 419.86	105 034.00	1 275.00	0.00	1 108 521.36	0.00	1 108 521.36
WP LT	700 398.57	105 059.71	20 502.50	308 140.00	0.00	0.00	1 134 100.78	0.00	1 134 100.78
WP T2	368 903.19	55 335.44	14 992.00	93 500.00	0.00	0.00	532 730.63	0.00	532 730.63
WP T3	503 046.11	75 456.85	16 564.00	115 876.00	30 000.00	0.00	740 942.96	0.00	740 942.96
WP I1	250 583.40	37 587.51	0.00	99 562.00	0.00	1 153 355.00	1 541 087.91	0.00	1 541 087.91
WP I2	243 240.00	36 486.00	0.00	45 200.00	12 500.00	688 000.00	1 025 426.00	0.00	1 025 426.00
WP I3	24 650.00	3 697.50	0.00	63 000.00	0.00	635 000.00	726 347.50	0.00	726 347.50
WP I4	339 530.00	50 929.50	0.00	358 400.00	80 000.00	600 000.00	1 428 859.50	0.00	1 428 859.50
WP I5	261 387.00	39 208.04	0.00	0.00	0.00	1 306 935.00	1 607 530.04	0.00	1 607 530.04
WP I6	51 197.88	7 679.68	2 568.00	130 000.00	17 200.00	975 000.00	1 183 645.56	0.00	1 183 645.56
WP C	299 413.33	44 911.96	23 360.00	126 308.00	0.00	0.00	493 993.29	0.00	493 993.29
Total	3 791 734.32	568 759.85	218 406.36	1 445 020.00	140 975.00	5 358 290.00	11 523 185.53	0.00	11 523 185.53
Percentage of total budget	32.91 %	4.94 %	1.90 %	12.54 %	1.22 %	46.50 %		0.00 %	100.00 %

Co-financing source	Staff costs	Office and administration	Travel and accommodation	External expertise and services	Equipment	Infrastructure and works	Sum financed budget	Decreasing net revenue	Total financed budget
ERDF	3 791 734.32	568 759.85	218 406.36	1 445 020.00	140 975.00	5 358 290.00	11 523 185.53	0.00	11 523 185.53
ERDF equivalent	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Project budget - overview per WP / per period

WP number	Period 1	Period 2	Period 3	Period 4	Total budget	Net revenue	Total eligible
WP M	114 596.32	303 774.95	309 473.24	380 676.85	1 108 521.36	0.00	1 108 521.36
WP LT	70 314.42	269 869.76	430 163.81	363 752.79	1 134 100.78	0.00	1 134 100.78
WP T2	24 853.77	196 306.08	173 691.02	137 879.76	532 730.63	0.00	532 730.63
WP T3	52 024.66	242 544.91	251 559.95	194 813.44	740 942.96	0.00	740 942.96
WP I1	0.00	48 984.75	332 710.08	1 159 393.08	1 541 087.91	0.00	1 541 087.91
WP I2	15 375.00	235 667.00	426 722.00	347 662.00	1 025 426.00	0.00	1 025 426.00
WP I3	2 127.50	26 240.00	668 240.00	29 740.00	726 347.50	0.00	726 347.50
WP I4	8 625.00	444 249.00	414 591.00	561 394.50	1 428 859.50	0.00	1 428 859.50
WP I5	0.00	803 765.02	803 765.02	0.00	1 607 530.04	0.00	1 607 530.04
WP I6	7 402.27	270 696.48	600 948.27	304 598.54	1 183 645.56	0.00	1 183 645.56
WP C	47 131.44	112 928.45	127 596.45	206 336.95	493 993.29	0.00	493 993.29
Percentage of total budget	2.97 %	25.64 %	39.39 %	31.99 %	100,00 %	0.00 %	100.00 %

In-kind contribution

Partner nr	Partner abbreviation	Amount
1	Codema	0,00
2	PCC	0,00
3	CAP 2020	0,00
4	Kortrijk	0,00
5	Leiedal	0,00
6	ECN	0,00
7	BsM	0,00
8	UoG	0,00
9	HvA	0,00
10	L7V	0,00
11	ACC	0,00
12	Mijnwater	0,00
13	SDCC	0,00
14	CER	0,00
Total		0.00
Percentage of total budget		0.00 %

Co-financing source	Amount
ERDF	0.00
Total EU funds	0.00
ERDF equivalent	0.00

Lead applicant confirmation

By submitting the application form the Lead Partner on behalf of all partners confirms that:

- the project is in line with the relevant EU and national and regional legislation and policies of the regions and countries involved;
- the Lead Partner and the project partners will act according to the provisions of the relevant national and EU regulations, especially regarding structural funds, public procurement, state aid, equal opportunities and sustainable development, as well as the specific provisions of the programme;
- the information in the application form is accurate and true to the best knowledge of the lead partner.