



# **CODEMA** **ANNUAL** **REPORT** **2022**



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## 01. CEO FOREWORD

“We have lots of exciting new work planned this year, working closely with our Dublin local authority partners to deliver Decarbonising Zone plans, updating the Climate Change Action Plans, and leading on Dublin City Council’s ambitious Net-Zero Cities initiative, taking Dublin City towards net-zero emissions by 2030.”

With Covid just in the rearview mirror, the Russian invasion of Ukraine sparked yet another crisis across Europe in 2022. Part of the wider impact of the war has been an energy crisis, with Europe’s reliance on imported gas highlighting the precarious position this leaves us in terms of energy security. Ireland is one of the most import-dependent countries in Europe, with more than 70% of our energy needs met by imports. Even though Ireland has one of the lowest reliances on Russian energy, the impact of the war on European gas market prices meant we were still adversely affected given our high reliance on this fossil fuel, particularly in our heating sector, where Ireland has the lowest percentage of renewables in the EU. Our electricity grid is also highly reliant on gas, and the electricity market price mechanism means these gas-fired power units often set the hourly electricity prices, meaning electricity prices also increased dramatically. This energy crisis has further reinforced the urgency to decarbonise the Irish energy system, and the Government’s latest Climate Action Plan 2023 - published at the end of 2022 - reflects this urgency and recognises that a whole system change is required.

In response, Codema has seen a significant increase in demand for our services from all sectors, and we took on seven excellent new staff members in 2022 to support the delivery of our services. Our Home Energy Saving Kits have been in high demand from householders and in 2022, we developed and delivered another 120 kits to libraries and other organisations across Ireland to keep up with demand. As part of Dublin Climate Action Week, we were involved in organising a number of events that were very well attended, and as regional coordinator of the Dublin and Mid-East region of SEAI’s Sustainable Energy Communities (SEC) programme, we welcomed 25 new Sustainable Energy Communities, showing the public demand for information on energy and climate.

With the majority of Dublin’s buildings being reliant on gas for heating, there has been a higher focus on our work to decarbonise the heating sector through the roll-out of low-carbon district heating systems. In 2022, we started developing a new scheme in the Blanchardstown area on behalf of Fingal County Council, which will be based on recycling waste heat from large data centres in the area. We achieved a major milestone on the Tallaght district heating project, with substantial works completed and heat turned on in time for Christmas 2022. We added a new district heating manager to our team who manages the Heat Works not-for-profit district heating company on behalf of South Dublin County Council. We also secured a contract of work with SEAI on developing district heating feasibility studies in Ireland. Codema also agreed a partnership with the Grangegorman Development Agency to act as their energy advisers, with our work this year focussing on a renewable district heating system to decarbonise their campus.

In 2022, we published the results of a significant and first-of-its-kind piece of research called the Dublin Region Energy Master Plan, the culmination of three years of work supported by SEAI's RD&D programme. The Master Plan sets out a clear, evidence-based roadmap for Dublin to achieve national 2030 and 2050 targets, and the results gained huge interest with national and regional stakeholders. Codema will continue to be leaders in the area of energy planning in 2023, with further research planned to increase Ireland's knowledge and expertise in this field.

Another big achievement in 2022 was Codema's new contract with the Mid-East Energy Unit, which is made up of Wicklow, Kildare and Meath County Councils. Codema will deliver energy management and project delivery services to these local authorities over the next three years. We are delighted to be working with these ambitious local authorities to help them achieve their 2030 energy and carbon targets.

While we continue to grow and scale up our services to keep up with demand and enable us to deliver on our vision and mission, we have also had a strong focus on increasing employee wellbeing and striving to be a better workplace. We are very lucky to have staff that are very passionate about what we do, and so we have a duty to ensure we protect them from burn-out. In 2022, we introduced a four-day week, where employees commit to keeping productivity at 100% while working 80% of a normal working week, in exchange for 100% pay. The trial proved successful and was really well received by staff, and Codema has decided to keep this initiative going forward. We are also continuing a hybrid working arrangement post-Covid to allow maximum flexibility. Diversity and inclusivity are also very important to us and align with our core values. In 2022, we developed an Equal Family Leave policy, which was enacted from the start of 2023. This gives all staff who become a parent to a baby or newly-adopted child, regardless of gender or relationship status, 12 weeks of full paid leave. In 2023 we will continue to be at the forefront of innovation not just in the services we deliver, but in how we deliver them.

We look forward to the year ahead, working together with stakeholders from across Dublin, Ireland and Europe to accelerate the low-carbon transition in Dublin. We have lots of exciting new work planned for 2023, working closely with our Dublin local authority partners to deliver Decarbonising Zone plans, updating their Climate Action Plans, and leading on Dublin City Council's ambitious Net-Zero Cities initiative, taking Dublin City towards net-zero emissions by 2030. We would also like to take this opportunity to thank our Board members for giving up their time to support and guide us in achieving our mission.



A handwritten signature in black ink, appearing to read 'Donna Gartland'.

**Donna Gartland**  
Chief Executive Officer, Codema

## 02. ABOUT CODEMA



### Vision, Mission and Values

Codema is Dublin's Energy Agency and is committed to leading Dublin's low-carbon transition towards 2030 and 2050. We act as the energy agency to the four local authorities in Dublin - Dublin City Council (DCC), Dún Laoghaire-Rathdown County Council (DLRCC), Fingal County Council (FCC) and South Dublin County Council (SDCC) - and support each Council in leading and influencing this low-carbon transition by improving their energy efficiency, incorporating renewable energy technologies and reducing their greenhouse gas emissions.

We pride ourselves in being very successful in bringing innovative energy projects and methods to Ireland. For example, we are working with Dublin City Council, Fingal County Council and South Dublin County Council to develop Ireland's first large-scale district heating networks, which will supply homes, businesses and public sector buildings

in the Dublin area with low-carbon, renewable heat. Using our knowledge of European best practice, we are working with all four Dublin Local Authorities to implement Energy Performance Contracting (EPC), with four projects already ongoing in Dublin City Council, Dún Laoghaire-Rathdown County Council and Fingal County Council and an additional three local authority EPC projects in the planning stages. In 2022, our Energy Planning team launched the results of the Dublin Region Energy Master Plan, which is the first of its kind in Ireland and provides spatially-led, evidenced-based solutions for reducing our capital's emissions towards 2030 and 2050. We are also using innovative methods to improve energy and climate awareness among citizens, such as our successful Home Energy Saving Kit scheme and the development of a collaborative roadmap for Dublin's energy transition, with citizens at the forefront, through the Zero Together initiative.



#### Vision

Codema's vision is for a better quality of life for all citizens through a fair and inclusive transition to a low-carbon society.



#### Mission

Our mission is to accelerate Dublin's low-carbon transition through innovative and inclusive local-level energy and climate change research, planning, engagement and project delivery, in order to mitigate the effects of climate change and improve the lives of citizens.

#### Our Approach



**Working with the four Dublin Local Authorities in leading and influencing the low-carbon transition**



**Making innovative energy projects mainstream with wide-scale impact**



**Influencing national and European policy through our on-the-ground knowledge of best practice models in Europe**



**Supporting networks of communities in developing a low-carbon energy model**



**Identifying and championing best-practice, low-carbon transport and building solutions**



### The Codema Board of Directors

Codema’s Board of Directors oversees the governance of the company and helps ensure that Codema’s vision and mission are achieved. The board members consist of senior representatives from the Dublin Local Authorities, along with representatives from the energy, legal and financial sectors. The Codema board meets on a bi-monthly basis.



Codema’s Board of Directors consists of the following members:

**Owen Keegan (Chair)**

Board Chairperson and Non-Executive Director, Dublin City Council board nominee

Chief Executive, Dublin City Council

**Gerry Wardell**

Board Secretary  
Non-Executive Director, Codema

**Donna Gartland**

Executive Director  
Chief Executive Officer, Codema

**Paul Kennedy**

Non-Executive Director, Dún Laoghaire-Rathdown County Council board nominee

Director of Service for Infrastructure and Climate Change, Dún Laoghaire-Rathdown County Council

**David Storey**

Non-Executive Director, Fingal County Council board nominee

Director of Services for Environment, Climate Action and Active Travel

**Teresa Walsh**

Non-Executive Director, South Dublin County Council board nominee  
Director of Environment, Water and Climate Change, South Dublin County Council

**PJ Rudden**

Independent Non-Executive Director  
Managing Director, Aengus Consulting Limited

**Mark Varian**

Independent Non-Executive Director  
Partner, Eversheds Sutherland

**Barry Gavin**

Independent Non-Executive Director  
Chair of Audit and Risk Committee



## 02. ABOUT CODEMA

(CONTINUED)

### The Codema Team

Codema currently employs 25 staff who have qualifications and experience in areas such as Engineering, Sustainable Development, Sustainable Infrastructure, Energy Planning and Policy, Architecture, Communications, Marketing, Project Management and Financial Administration. This allows the team to deliver key services within areas such as Local Authority Energy Management, Project Implementation, Awareness, Communications and Engagement, Research, Development and Innovation and Management Support.



**Donna Gartland**  
**Chief Executive Officer**  
MSc in Sustainable Energy  
Planning and Management  
BEng in Energy and  
Environmental Engineering



**Edel Giltenane**  
**Executive Manager,  
HR Lead**  
Diploma in Human Resource  
Management  
Certificate in SME Management  
PMI Project Management  
Professional (PMP)  
MSc in Environmental Resource  
Management  
BSc in Earth Science



**Claire Donoghue**  
**Office Manager**  
Certificate in Administration  
and Digital Skills  
Professional Diploma in Digital  
Marketing  
GDPR Training  
MA in Film & Television Studies  
BA in Media Production and  
Management  
HND Television Operations and  
Production Management



**Kevin Craven**  
**Project Finance Manager**  
Diploma in Financial Services  
Certified Project Management  
Diploma  
BA in English, Sociology and  
Politics



**Dec McCormac**  
**Executive Project Manager  
Project, Resource &  
Funding Lead**  
PMI Project Management  
Professional (PMP)  
Certificate in Public  
Procurement  
MSc in Sustainable  
Development  
BA (Intl) in Geography and  
Archaeology



**Joe Hayden**  
**Executive Manager,  
Project Implementation  
Lead**  
Certificate in Public  
Procurement  
Certified Measurement and  
Verification Professional (CMVP)  
MSc in Sustainable  
Development  
BA/BAI in Mechanical and  
Manufacturing Engineering



**Emily Clarke**  
**Energy Engineer**  
BEng (Honours) in  
Environmental Engineering  
Bachelor of Arts in French and  
International Studies  
Certified Energy Manager in  
Training



**Suzanne Fitzpatrick**  
**Executive Manager,  
Awareness,  
Communications &  
Engagement**  
Executive Diploma in Digital  
Marketing  
Certificate in Internal  
Communications  
Diploma in PR and Event  
Management  
BA in Journalism



**Katie Harrington**  
**Public Engagement  
Manager**  
MSc in Climate Change  
Postgraduate Diploma in Digital  
Marketing  
BSc in Marketing



**Katia Tikhoniouk**  
**Communications and  
Project Manager**  
Diploma in Graphic Design and  
Desktop Publishing  
Certificate in Project  
Management  
Diploma in Digital Marketing  
MA in Architecture  
BA in Architectural Science





**Gobnait Ní Néill**  
**Energy & Climate Awareness Officer**

Postgraduate Certificate in Creativity, Innovation and Entrepreneurship  
BDes Industrial Design



**Sarah McEllistrem**  
**Public Engagement & Stakeholder Coordinator**

Higher Diploma in Sustainability in Enterprise  
LL.B in Law and French



**Shannen Healy**  
**Project Manager**

Higher Diploma in Sustainability in Enterprise  
MSc in Food Business and Innovation  
BSc in Microbiology



**Ciarán Murphy**  
**Executive Manager, Research, Development & Innovation Lead**

Masters in Energy Systems Engineering  
BE in Mechanical Engineering



**John O'Shea**  
**Senior Energy Systems Analyst, Heat & Electricity Lead**

Post-Graduate Diploma in Sustainable Energy  
CIBSE-certified Heat Networks Consultant  
BEng in Civil Engineering



**Rebecca Cachia**  
**Senior Energy Engineer**

MEng in Sustainable Infrastructure  
B.E. & A. (Hons) in Architecture and Civil Engineering



**Conor Leahy**  
**Executive Manager, Local Authority Lead**

MSc in Energy Management  
BE in Biosystems Engineering  
Certified Measurement & Verification Professional  
Certified Energy Manager



**Eoin Ahern**  
**Senior Energy Engineer, Transport & Renewables Lead**

MEngSc in Sustainable Energy Research MEngSc at UCC  
BE in Mechanical Engineering  
Certified Energy Manager (CEM)  
Non-domestic BER Assessor  
Registered DEC Assessor  
Registered Energy Auditor



**María Diaz**  
**Energy Manager**

Specialisation in Operations Management  
BEng in Energy Technologies



**Adam Doyle**  
**Energy Engineer**

ME Energy Systems Engineering  
BSc Energy Systems Engineering  
BEng in Mechanical Engineering  
Domestic BER assessor  
Non-domestic BER assessor  
Registered Technical Advisor



**Neil O'Leary**  
**Energy Engineer**

MSc Energy Science  
BEng Energy Engineering



**Kieran Donohue**  
**Energy Systems Graduate**

ME Energy Systems Engineering  
BEng in Energy Systems Engineering



**Admir Shala**  
**District Heating Development Manager**

MSc in Energy, Environmental Technology and Economics  
BSc in Electrical Services and Energy Management  
Diploma and Certificates from CPD International Programmes



**Valentyna Huch-Denysenko**  
**Energy Engineer Intern**

MSc in Energy Management  
Certified Energy Auditor of Buildings



**Eli Babei**  
**Project Coordinator**

Certificate on Communicating for Influence and Impact  
Certification in Project Management  
MA in European Integration and Civil Law  
BA in Public Law

## 02. ABOUT CODEMA

(CONTINUED)

# CORE COMPETENCIES



## LOCAL AUTHORITY ENERGY MANAGEMENT

Monitoring and Reporting  
Energy Databases  
Energy Audits  
Display Energy Certificates  
ISO 50001  
Energy Efficiency Upgrades  
Energy Management System Implementation



## PROJECT IMPLEMENTATION

Energy Efficiency Projects  
Renewable Energy Projects  
Energy Performance Contracting  
District Heating Contracting  
Project Procurement and Finance  
EV Charging Infrastructure Delivery



## AWARENESS, COMMUNICATIONS AND ENGAGEMENT

Zero Together  
Think Energy Campaign  
Home Energy Saving Kits  
Energy and Climate Awareness Programmes  
Staff Engagement  
Educational Workshops and Events  
Information Events  
Promotion of Local Authority Energy and  
Climate Change-Related Projects  
Promoting Sustainable Energy Communities



## RESEARCH, DEVELOPMENT AND INNOVATION

EU and National Energy and Climate  
Change Policy Analysis  
Climate Mitigation  
Energy Planning across Electricity, Heat,  
Transport and Building Energy Efficiency  
GHG Modelling  
Techno-Economic Energy System Analysis  
Detailed Energy System Financial  
Appraisals  
Energy Master Planning  
District Heating Research, Project  
Development and Policy Advice  
Advice on Development Plans and Policy  
Papers



## MANAGEMENT SUPPORT

Financial Administration and Reporting  
Project Proposals  
Tender Development  
Local and EU Project Management  
National and EU Funding Applications  
Resource Planning  
Project Plan Development

### 03. WORK PROGRAMME 2022



## LOCAL AUTHORITY ENERGY MANAGEMENT

#### **Monitoring and Achieving Public Sector Energy Targets**

Codema works with the Dublin Local Authorities (DLAs) to help them monitor and achieve their public sector targets. As set out in the Government's Climate Action Plan, new targets of a 50% improvement in energy efficiency and a 51% reduction in CO<sub>2</sub> by 2030 have been set for the public sector. In addition to this, 50% of thermal demand in buildings must be met by renewable sources by 2030.

As part of the Sustainable Energy Authority of Ireland (SEAI)'s new 2030 Monitoring and Reporting (M&R) system, a statutory greenhouse gas (GHG) emissions target must now be met in addition to the pre-existing energy efficiency target. The SEAI has decided to implement this as a 51% reduction in direct GHG emissions from transport and thermal fuels. Indirect GHG emissions related to electricity have been excluded from this target, as they are already expected to fall by at least 77.4% due to the high level of decarbonisation of the national grid supply by 2030. These new targets will demand continued and increased focus on the energy performance of the Councils' buildings and operations over the coming decade. Codema will continue to work with the relevant DLA Energy Performance Officers (EPOs) and Energy Teams to help them to identify and implement the best energy-saving opportunities in their organisations and develop a pathway towards achieving their new 2030 targets.

As set out in the Government's Climate Action Plan, new targets of a 50% improvement in energy efficiency and a 51% reduction in CO<sub>2</sub> by 2030 have been set for the public sector. In addition to this, 50% of thermal demand in buildings must be met by renewable sources by 2030.



## 2030 Targets for the Public Sector

### National Climate Action Plan

50% improvement in energy efficiency

### National Climate Action Plan

51% reduction in CO<sub>2</sub>

### National Climate Action Plan

50% of thermal demand in buildings must be met by renewable sources

## Management of Public Sector Monitoring and Reporting

Under S.I. 426 of 2014, the DLAs have an obligation to report annually on their energy performance. In practice, this annual reporting involves compiling full data of their previous year's energy consumption. This comprises mainly of MPRN data for all electricity accounts and GPRN data for all natural gas accounts, along with the annual consumption data for non-metered public lighting, heating oil and transport fuels.

In 2022, Codema supported all four DLAs with this statutory reporting to the national energy M&R system operated by the SEAI on behalf of the Department of the Environment, Climate and Communications (DECC). The M&R system is very useful for tracking the individual local authority's progress towards its 2030 energy efficiency, emissions and renewable heat targets.

### Emission Target to 2030

Emissions  
baseline



2030 emissions  
reduction  
target: 51%



### 03. WORK PROGRAMME 2022

LOCAL AUTHORITY ENERGY MANAGEMENT (CONTINUED)

Codema can assist the DLAs with the following Energy Management Processes



#### ENERGY SURVEYS OF BUILDING GROUPS

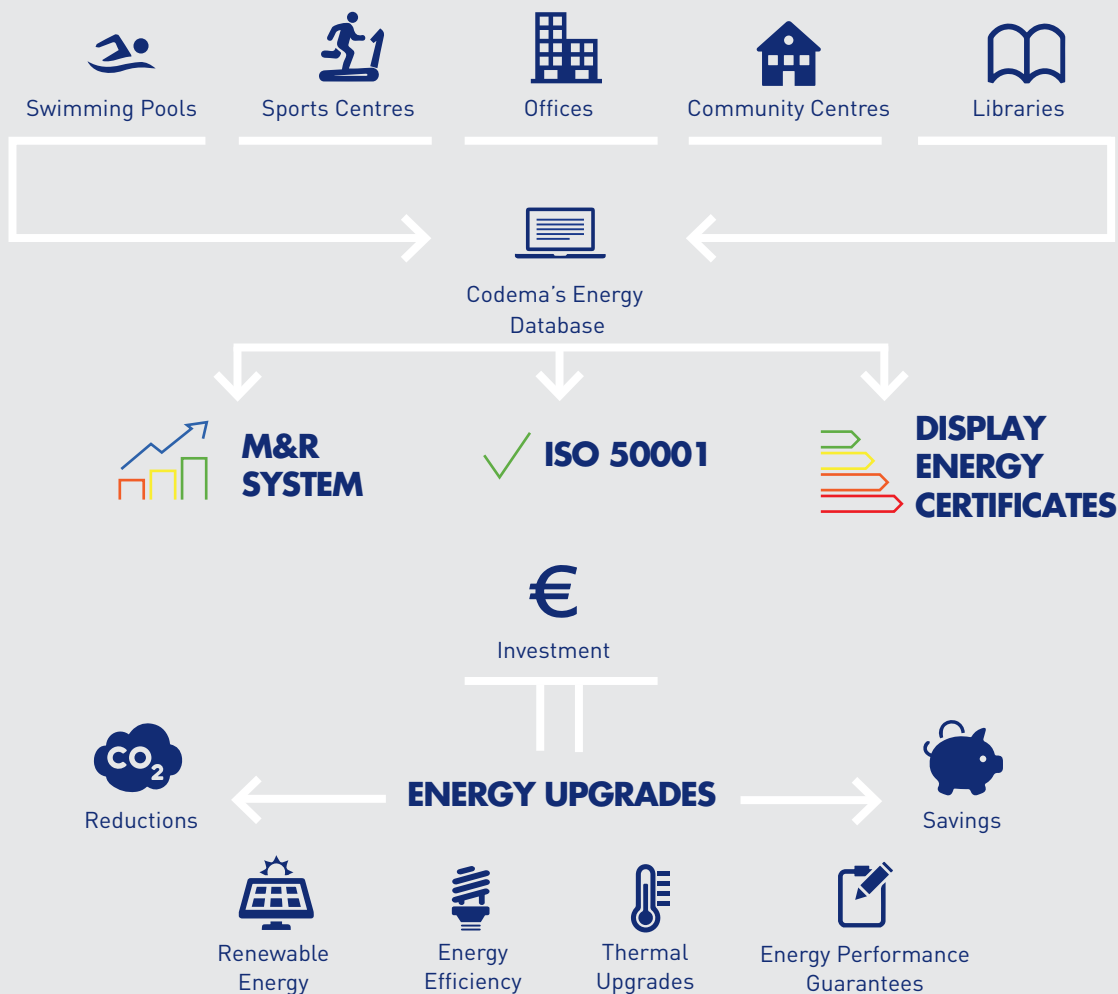






Photo courtesy of Fingal County Council

In 2021, SEAI published an updated Gap-to-Target tool, to assist local authorities in identifying the energy efficiency improvements and greenhouse gas emission reductions that each Council will be required to make by 2030. It has subsequently released a number of updated versions of the Gap-to-Target tool. Codema updated all versions of the Gap-to-Target tool as they have been released and has input all the required data to model GHG emissions out to 2030.

## Energy Reviews

For the past number of years, Codema has been producing annual Energy Review documents for each of the DLAs. The Energy Reviews highlighted the total amount of energy that the Councils consumed throughout the year, along with the total cost and carbon emissions associated with this energy use in the same year. This data allowed Codema to develop a specific list of energy-saving recommendations, guiding each DLA on how best to tackle their Significant Energy Users (SEUs) and continue to meet public sector targets.

In 2022, Codema developed a new Energy Review template for the DLAs. This document was based on the previously produced Energy Reviews, but included load profiles for larger buildings and switched from reporting in Primary Energy to Final Energy. In 2022, this new format Energy Review was completed for both Fingal County Council (FCC) and Dún Laoghaire-Rathdown County Council (DLRCC) as part of their ISO 50001 management system, and was commended during the process of their recertification audit. The new Energy Review process has been commenced for DCC and SDCC and is near completion.

## ISO 50001

In 2022, Codema worked regularly with the DLAs in relation to the implementation and management of their energy management systems to coordinate all actions towards reaching and maintaining certification to ISO 50001 standard and meeting energy efficiency and carbon reduction targets.

FCC completed SEAI's ISO 50001 masterclass in 2019, and received certification to the new 2018 standard in February 2020. In July 2022, FCC passed its recertification audit.

South Dublin County Council (SDCC) signed up to SEAI's ISO 50001 masterclass and completed the course in 2019. This masterclass aimed to guide the local authorities towards achieving ISO 50001 accreditation. Codema is currently aiding SDCC in completing outputs from these masterclasses and is helping the Council to progress the energy management system to a stage where it can apply for certification in 2023.

Dún Laoghaire-Rathdown County Council achieved ISO 50001 accreditation in 2016 on the back of SEAI's initial ISO 50001 masterclass. Codema agreed a work programme to aid the local authority with its energy management system and throughout the recertification process. In December 2022, DLRCC successfully passed its recertification audit.

## Energy Team Meetings

In 2022, Codema helped to facilitate 22 energy team meetings across the four Dublin Local Authorities. These energy team meetings are part of the structured energy management system that the Councils have either achieved ISO 50001 certification for or are in the process of moving towards certification.



### 03. WORK PROGRAMME 2022

#### LOCAL AUTHORITY ENERGY MANAGEMENT (CONTINUED)

FCC and DLRCC currently have ISO 50001 energy management systems in place. As part of these systems, both local authorities meet regularly with their team members, in order to keep track of energy performance, as well as the energy management system in its entirety. These energy teams also keep track of action plans and ensure SEUs are on target to achieve their energy efficiency and carbon reduction goals. These team meetings are a crucial part of the Councils' energy management system and Codema helps both local authorities to facilitate these meetings by helping to set agendas and work with each SEU area, all with the view to ensure they reach their targets and that the energy management system continues to improve.

#### Display Energy Certificates

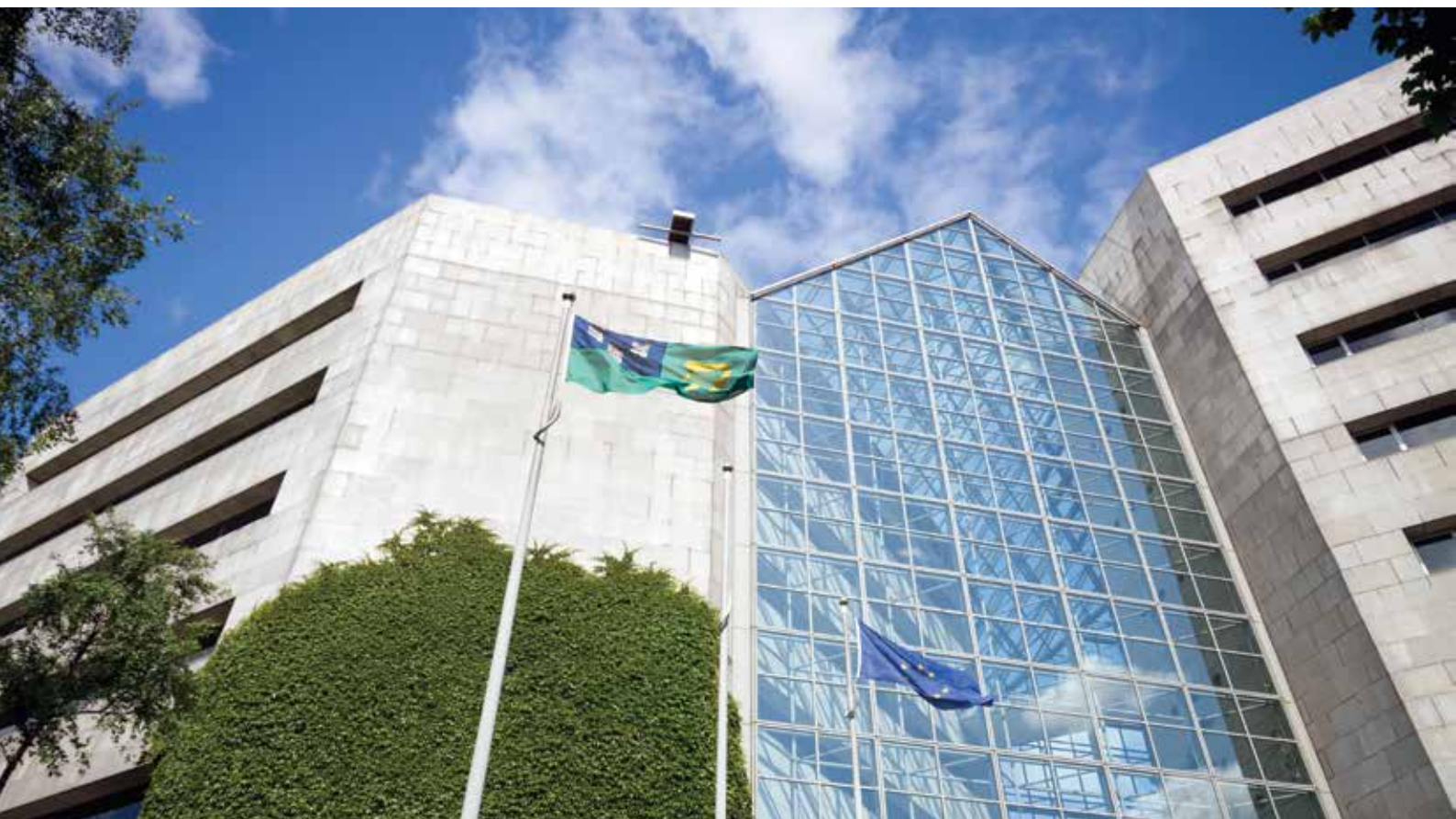
The information from Codema's energy database and energy surveys is used to prepare Display Energy Certificates (DECs) for each publicly-accessible local authority building with a floor area greater than 250m<sup>2</sup>, as required under the regulation S.I. 243 of 2012. DECs allow for a comparison of a particular building's energy performance against a standard benchmark, and are updated annually with the actual energy consumption over the previous 12 month period. This then allows for the building's energy performance to be tracked from one year to the next.

Codema assisted the four DLAs with the certification of 88 public buildings in total in 2022. This included the completion of 19 site surveys in Dún Laoghaire-Rathdown County Council. This information was entered into the SEAI system for the local authorities, and Codema issued certificates to the managers of all of these buildings, along with information on how much energy would need to be saved in the following year to improve their energy rating.

Each building manager also received a copy of Codema's Guide to Display Energy Certificates in Local Authority Buildings to accompany these certificates and encourage direct action.

#### Energy Audits

In 2022, Codema completed six energy audits in SDCC and one in DLRCC. This involved a site visit, a review of site drawings and schematics, an interview with on-site personnel, the analysis of consumption data and the identification of projects. Once the on-site inspection was completed, Codema put together a project identification and proposal document, which gives a brief description of the project and displays the findings from the financial analysis carried out. The findings of the energy audits feed into the DeliveREE project pipeline and are focused on the decarbonisation of the buildings in line with the DLAs' 2030 targets.



### Establishment of the Mid-East Energy Unit

In December 2022, the Mid-East Energy Unit was established in partnership with Wicklow, Meath and Kildare County Councils. The core Energy Unit service will be provided by Codema working in partnership with each of the local authorities. The short-term goal is to support the three local authorities in meeting their 2030 energy efficiency and emission targets through the identification and implementation of energy efficiency and low-carbon projects. The long-term goal is to establish and embed structured energy management practices within the local authorities to help them to fulfil their exemplary leadership role with respect to climate action.

Codema will act as the regional coordinator and will provide the services as agreed in the Annual Work Programme. These services will initially focus on:

- A review of current energy management practices with a focus on M&R reporting to date.
- Establishing a pipeline of projects and a pathway to meet mandatory public sector energy targets by 2030. This will be informed by the gap-to-target as set out in the M&R tool.
- The facilitation and delivery of the pipeline of projects over a three-year period, working with internal dedicated staff and energy teams.

In December 2022, the Mid-East Energy Unit was established in partnership with Wicklow, Meath and Kildare County Councils.



### 03. WORK PROGRAMME 2022

LOCAL AUTHORITY ENERGY MANAGEMENT (CONTINUED)

#### LOCAL AUTHORITY ENERGY MANAGEMENT - KEY OUTPUTS FOR 2022



**19 SITE SURVEYS  
AND 7 ENERGY  
AUDITS COMPLETED**



**ISO 50001  
CERTIFICATION  
RETAINED FOR DLR  
AND FINGAL COUNTY  
COUNCILS**



**ISO 50001  
ENERGY REVIEWS  
PRODUCED FOR  
DLRCC AND FCC**

#### Local Authority Energy Management - Actions and Outputs 2022

Date	Actions	Project support	Outputs
<b>January</b>	M&R System deadline - meter data entry (MPRNs & GRPNs) for the 4 DLAs	--	161 energy accounts entered into the M&R
	FCC Energy Team Meeting	--	Presented on LA's current energy performance
<b>February</b>	DLRCC Energy Team Meeting	--	Presented on LA's current energy performance
<b>March</b>	DLRCC Energy Team Meeting	--	Presented on LA's current energy performance
	FCC Energy Team Meeting	--	Presented on LA's current energy performance
<b>April</b>	Quarterly Lexlcon Energy Team Meeting	--	Presented on energy performance of the Lexlcon and small libraries
	M&R system deadline - other fuel data update for the 4 DLAs	--	Annual M&R reporting completed
	Staff Business Travel deadline (pilot)	--	New requirement for public bodies
	FCC internal audits - Blanchardstown Library, Fleet	--	Internal audits completed as per ISO 50001 requirements
	DLRCC Energy Team Meeting	--	Presented on LA's current energy performance
<b>May</b>	FCC ISO 50001 Management Review	--	Presentation to Senior Management
	FCC ISO 50001 Energy Review	--	Energy Review compliant with ISO 50001 requirements
	FCC Energy Team Meeting	--	Presented on LA's current energy performance
	DLRCC Energy Team Meeting	--	Presented on LA's current energy performance
<b>June</b>	FCC Energy Team Meeting x 2	--	Presented on LA's current energy performance and preparation for surveillance audit

Date	Actions	Project support	Outputs
June	DLRCC Energy Team Meeting	--	Presented on LA's current energy performance
	DCC - Energy Oversight Committee	--	Presented on LA's energy performance in the previous 3 months
	Data Verification Assessment (DVA) notifications	--	No DVAs received for any LAs
July	DEC site audits carried out in DLRCC's buildings	--	Floor area, ventilations systems and photos taken
	FCC ISO 50001 recertification audit - passed, no non-conformities	--	Recommended for ISO 50001 re-certification
August	Quarterly Lexlcon Energy Team Meeting	--	Presented on energy performance of the Lexlcon and small libraries
	DECs sent out to all 4 DLAs	--	Certificate, explanatory brochure and letter sent to each facility manager
	FCC Energy Team Meeting	--	Presented on LA's current energy performance
September	Building register deadline	--	New requirement for Public Bodies (optional in 2022)
	FCC Keen to be Green Awards	--	Presented on Community Centre Energy Efficiency
	FCC Energy Team Meeting	--	Presented on LA's current energy performance
	DLRCC Energy Team Meeting	--	Presented on LA's current energy performance
October	DLRCC ISO 50001 Energy Review	--	Energy Review compliant with ISO 50001 requirements
	DCC - Energy Oversight Committee	--	Presented on LA's energy performance in the previous 3 months
	FCC Legal and Other Requirements	--	Register of relevant legal and other requirements compiled as per ISO 50001 requirement
	DLRCC Energy Team Meeting x 2	--	Presented on LA's current energy performance and preparation for re-certification audit
November	Quarterly Lexlcon Energy Team Meeting	--	Presented on energy performance of the Lexlcon and small libraries
	DLRCC Energy Team Meeting x 2	--	Presented on LA's current energy performance and preparation for re-certification audit
	FCC Energy Team Meeting	--	Presented on LA's current energy performance
December	DLRCC ISO 50001 re-certification audit - passed, no non-conformities	--	ISO 50001 certification retained
	FCC Energy Team Meeting	--	Close out 2022, plan for 2023
	DLRCC Energy Review 2021 summary document finalised	--	Designed DLRCC Energy Review 2021 summary document
	Establishment of Mid-East Energy Unit	SEAI Pathfinder	Kick off meeting in Wicklow



### 03. WORK PROGRAMME 2022



## PROJECT IMPLEMENTATION

Over the past six years, Codema has facilitated the investment of over €11 million in energy efficiency, renewable energy and low-carbon projects for the Dublin Local Authorities. This includes the first large-scale district heating project in Ireland connecting both public and private customers, four Energy Performance Contract (EPC) projects involving 15 buildings and a renewable energy project involving six buildings.

What is unique about the majority of these projects (as set out in Table 1) is the use of Energy Performance Contracts; the Dublin Local Authorities are among the first public bodies in Ireland to use these types of contract structures in Ireland. Energy Performance Contracts are a key tool in the decarbonisation of our buildings and they have a number of key advantages over traditional contracting approaches such as:

- There is very little risk to the client. All of the technical risk sits with the contractor, who provides a guarantee of energy performance. EPC allows the local authority to cap its financial contribution to the project by providing a fixed sum.
- EPC also enables the introduction of private sector finance via an Energy Service Company (ESCO) or contractor.

These key attributes of the EPC ensure that the local authority gets value for money. But perhaps the most important benefit of EPCs is that they encourage the movement away from individual energy efficiency projects to whole building retrofit projects, allowing us to decarbonise our buildings at the speed and efficiency necessary to achieve our targets.

Over the past six years, Codema has facilitated the investment of over €11 million in energy efficiency, renewable energy and low-carbon projects for the Dublin Local Authorities.



Table 1: Energy Efficiency and Renewable Energy Projects facilitated by Codema

Project Name	Contract	Contract Duration	Capital Investment	Source of Funding
<b>DCC Civic Office and Library PV</b>	Traditional Contract	Works only	€200,000	100% Local Authority
<b>Irishtown Stadium LED lighting</b>	Energy Performance Guarantee	3 months	€33,000	70% Local Authority / 30% Grant
<b>OBI boiler replacement</b>	Energy Performance Guarantee	1 Year	€230,000	100% Local Authority
<b>DCC Leisure Centres EPC</b>	Energy Performance Contract	8 years	€670,000	70% Grant / 30% ESCo
<b>DCC Sports and Leisure EPC</b>	Energy Performance Contract	8 years	€630,000	63% Local Authority / 37% ESCo
<b>DLR Leisure Centres EPC</b>	Energy Performance Contract	8 years	€600,000	50% Local Authority / 50% ESCo
<b>Tallaght District Heating Scheme</b>	Energy Supply Contract	10 years	€7,972,000	61% Grant / 39% ESCo
<b>Fingal County Council EPC</b>	Energy Performance Contract	8 years	€1,000,000	50% Grant / 50% ESCo
<b>Total</b>			<b>€11,335,000</b>	

### 03. WORK PROGRAMME 2022

#### PROJECT IMPLEMENTATION (CONTINUED)

##### DeliveREE

In early 2021, Codema was awarded funding under the Horizon 2020 Project Development Assistance call for the DeliveREE project, and began work on this project in mid 2021. Through DeliveREE, Codema is building on the experience of the past six years and creating an innovative project finance and delivery structure for energy efficiency and renewable energy projects in the Dublin region, across the four Dublin Local Authorities, using various performance-based contracting structures.

By creating a structured approach, DeliveREE aims to accelerate the formation of large-scale projects by standardising the project development process, allowing projects of various types and sizes to be aggregated to create scale. This enables the use of energy performance and energy supply contracts whose performance guarantees are both critical for achieving value for money, providing a mechanism for the involvement of private capital and limiting the exposure of the local authority to cost overruns. DeliveREE is doing this by:

- Creating a 'one-stop-shop' Project Implementation Unit (PIU) for project owners to go to for energy saving projects
- Creating an innovative standardised central project delivery system for processing potential projects to achieve speed of assessment and give confidence and familiarity to clients and market players

- Removing legal and administrative barriers through cooperatively designing approved assessment templates and procedures to ensure quality control and due diligence
- Aggregating projects, bundling multiple small and medium projects together to attract EScO market and private financing, and gain large-scale impact on efficiency in the building stock
- Using a range of performance-based contracts to ensure long-term, guaranteed energy savings and de-risk cash-flows

Codema continued work on the DeliveREE project in 2022. Two biannual meetings were held in March and October to update the partners and advisory board on the status of the project. The October meeting was the first in-person meeting with the partners and advisory board, and Codema also presented at the Association of Energy Engineers conference, where DeliveREE was showcased to relevant industry professionals.

##### Guidance Report

One of the main deliverables for the research element of the project, Work Package 2, was a Guidance Document for the Development of the Project Implementation Unit and Protocols and Procedures, which summarised the findings of market research and interviews conducted by Codema in late 2021. The report addressed the five key barriers that were identified to the development of the EPC market in Ireland, summarised





the findings from the market assessment and presented a gap analysis, which proposes a clear roadmap for the development of the Project Implementation Unit. During discussions with partners and the advisory board at the DeliveREE biannual meeting, it was confirmed that there is a lack of shared understanding of EPC. The Guidance Document was therefore updated with an 'EPC Cheat Sheet', which defines each aspect of a typical performance contract to demystify EPC. This report was finalised, published to stakeholders and submitted to the portal in May 2022.

### **Project Implementation Unit**

The Project Implementation Unit (PIU) is central to DeliveREE, as it contains the protocols and procedures for the development of energy efficiency and renewable projects. Codema finalised the basic structure of the PIU and submitted the draft protocols and procedures in May 2022. In 2022, Codema also began developing an online portal for the PIU using Airtable, an online database software. This involved the creation of a database as well as a user-friendly interface for project management. The protocols and procedures were uploaded to Airtable and continually refined and updated throughout the year. A risk assessment for the PIU was also developed to identify weak spots in the project development process and will be used to develop a specification of updates required to the PIU.

### **Gap-to-Target Analysis**

The DeliveREE project aims to deliver signed contracts for nine procurement lots and a summary of the investments and energy related impact indicators. To ensure the projects best reflect the local authorities' requirements to meet government targets, a gap-to-target analysis was performed, which assessed the current gaps to targets for each local authority and outlined the projects required to make sure these targets are met. This resulted in an updated investment pipeline. In 2022, there was substantial progress on three projects, which are nearly ready to proceed to the procurement stage.

### **Arthurstown Landfill Solar PV**

The first project to begin development in February 2022 was the Arthurstown Landfill Small Scale Solar PV. This project began as a 75kW solar array at initial appraisal stage, and following a site visit facilitated by SDCC, analysis of technical data and information and provided feedback and discussions, the technical and financial analyses is now proposed to be a 200kW array, which aims to provide approximately 30% of the site's annual electricity consumption. This project is now at the detailed appraisal stage, and once approval is provided from the Council, it will proceed to procurement. Development has also begun on the proposed large-scale 5MW solar PV project at the same site. A request for tenders for the completion of a detailed feasibility study was published on eTenders in April 2023.



### 03. WORK PROGRAMME 2022

#### PROJECT IMPLEMENTATION (CONTINUED)



Photo courtesy of dlr Leisure

#### **SDCC Buildings EPC**

The second project to begin development was Lot 6 in April 2022, which includes energy efficiency upgrades for five South Dublin County Council (SDCC) buildings (County Hall and library, Civic Theatre, Clondalkin offices, Clondalkin Leisure Centre and Tallaght Leisure Centre). This project has gone through the pre-procurement steps of the project development process with help from SDCC who have facilitated audits and provided technical information. The project is now at the detailed appraisal stage, and once approval is provided from the Council, it will proceed to procurement.

#### **DLRCC Buildings EPC**

The third project to begin development was Lot 1 in April 2022. This project includes energy efficiency upgrades on three buildings in Dún Laoghaire-Rathdown County Council (DLRCC); County Hall, the Lexicon Library and Cultural Centre and the Pavilion Theatre. This project has gone through the pre-procurement steps of the project development process. The project is now at the detailed appraisal stage, and once approval is provided from the Council, it will proceed to procurement.

#### **Pathfinder Funding**

Codema is currently working with the local authorities and SEAI to secure Pathfinder funding for the proposed projects mentioned above. The overall intention behind the SEAI-developed Pathfinder Scheme is to provide capital support to public bodies to create a step-change in energy efficiency and decarbonisation by supporting public sector projects that reduce greenhouse gas emissions and not just energy demand reduction measures. The scheme prioritises complete approaches to building retrofit to at least BER 'B' standard using renewable heating systems.

DeliveREE and Pathfinder are highly complementary. Through DeliveREE, the four DLAs have aligned their objectives with the principles of the Pathfinder programme. They have come

together in a partnership approach to implement a range of energy efficiency, renewable energy and low-carbon deep retrofit projects with the aim of reducing energy-related greenhouse gas emissions. The overall aim is to bring all buildings in the pipeline to a minimum 'B' energy rating and to develop a clear pathway to this standard in cases where this is not initially feasible. Through DeliveREE, the DLAs have secured a project implementation unit for the facilitation of the proposed project pipeline. This ensures that any funding provided through Pathfinder will be utilised in the most efficient and targeted manner. Pathfinder funding will ensure that the proposed pipeline of projects can be delivered within three years. It will accelerate the process and provide certainty for the local authorities and encourage deep retrofit projects. It will also demonstrate the effectiveness of a highly scalable innovative project funding model that facilitates private investment in combination with client (and grant) financing, while providing guaranteed energy and greenhouse gas emission savings. This is critical if we are to meet our 2030 and 2050 reduction targets.

#### **Energy Efficiency Projects**

##### **FCC Office Building EPC Project**

In 2022, Codema assisted FCC with the delivery of its first Energy Performance Contract (EPC) project. This project involved FCC's headquarters at County Hall in Swords and the Civic Offices building in Blanchardstown and involved upgrades to the existing lighting, heating and ventilation systems in the two buildings. The contract, which is for nine years, will achieve energy savings of 1.3 GWh and 330 tCO<sub>2</sub> per annum, which represents 32% of total energy consumption at present. The works are now completed and the project is entering the nine-year maintenance and service phase. The total cost savings are expected to be €139,828 per year. Codema is currently working with FCC to develop its second EPC project for the Draíocht Theatre and library building in Blanchardstown and energy efficiency works in a number of other buildings under the DeliveREE project.





### DLR Leisure EPC Project

Codema assisted DLR Leisure with the delivery of its first EPC project for Meadowbrook, Loughlinstown and Monkstown Leisure Centres. The project was awarded to Noel Lawler Green Energy Solutions in January 2021 and works were completed in July 2022. The project included the installation of a new Combined Heat and Power (CHP) system, upgrades to existing external lighting, upgrades to the building management systems and upgrades to heating, ventilation and pumping systems across the three buildings. The contract, which is for eight years, will achieve energy savings of 1.5 GWh and 318 tCO<sub>2</sub> per annum, which represents 24% of total energy consumption at present. The total cost savings are expected to be €98,179 per year, a reduction of 31%. Measurement and Verification (M&V) figures for the Initial Reconciliation Period between July 2022 and December 2022 indicate the project has achieved energy savings of 21%, equating to 584,219 kWh, with a value of €34,351.

### Measurement and Verification Support

In 2022, Codema continued to assist DCC with the ongoing Measurement and Verification (M&V) of its two ongoing EPC projects. The first EPC project involved a number of energy efficiency upgrades to Ballymun, Finglas and Markievicz Sports and Fitness Centres. The contract is now in its sixth year of an eight-year contract and the latest M&V figures show that between December 2016 and June 2021, the project has achieved energy savings of 13.6 GWh, with a value of €896,674. The project has also saved 3,634 tonnes of CO<sub>2</sub> and average annual energy savings of 37%. M&V figures are being updated to include 2022 energy savings. Codema will continue to assist DCC with managing this M&V process in 2023.

DCC's second EPC project involved upgrading the existing lighting, heating and ventilation systems across seven sports and leisure buildings. The largest building is Ballyfermot Sports and Fitness Centre; the other six buildings are dry

sports halls, namely St Catherine's Community Centre, Ballybough Community Centre, Cabra Parkside, Irishtown Sports and Fitness Centre, Bluebell Sports Centre, and Poppintree Community Sports Centre. The works were completed in February 2020 and the eight-year service period began on the 1st March 2020. The latest M&V figures show that between March 2020 and June 2021, the project has achieved energy savings of 1.5 GWh with a value of €182,343. The project has also saved 525 tonnes of CO<sub>2</sub> and average annual energy savings of 23%. M&V figures are being updated to include 2022 energy savings. Codema will continue to assist DCC with managing this M&V process in 2023.

### EPC Facilitator Training

In 2021, Codema was contracted by SEAI to develop a training course for EPC Project Facilitators. The aim of the course is to provide other public and private organisations with the necessary information, tools and skills to facilitate the implementation of Energy Performance, Energy Supply or Energy Guarantee projects within their own organisation or on behalf of a client. The course focuses on the complete project development cycle, including initial project identification, technical analysis, financial analysis, risk analysis, contract selection, procurement and measurement and verification. The EPC facilitator training was successfully delivered on two occasions in September and November of 2022. The course was delivered over two days and consisted of seven modules addressing:

- How to identify potential EPC project opportunities
- How to present EPC projects to customers
- How to discuss the added value of EPC compared to in-house solutions
- Procurement of EPC: Tendering and awarding of contract
- The content of an EPC contract
- Financing of EPC projects

### 03. WORK PROGRAMME 2022

#### PROJECT IMPLEMENTATION (CONTINUED)

Photo courtesy of Fortum

#### District Heating Contracting

##### Tallaght District Heating Scheme

In 2022, Codema continued to assist South Dublin County Council with the delivery of the innovative Tallaght District Heating Scheme. This district heating network will use excess heat from a recently completed Amazon Web Services' (AWS) data centre to provide low-carbon heat to public sector, residential and commercial customers. As part of the project, SDCC has established Ireland's first publicly-owned, not-for-profit energy company, to provide low-carbon heat to local homes and businesses. Trading as Heat Works, the district heating company has contracted Fortum, a large Finnish energy services company with extensive district-heating experience throughout Scandinavia and Eastern Europe, to carry out the design, build, operation and maintenance of the Tallaght heating plant and primary heat network for a period of 10 years. The installation of the first pipes in the network and heat substations began in Spring 2021 and the network is now operational and providing heat to SDCC's County Hall and Library and TU Dublin Tallaght buildings. The heat is provided via the energy centre using large-scale heat pumps and a backup electric boiler.

##### Dublin Docklands District Heating System

Codema continues to work with Dublin City Council in the development of the Dublin Docklands District Heating System. In 2022, Codema provided ongoing technical input in helping to finalise assumptions for the economic model and project business case for presentation to the project board. In 2022, Codema worked with SEAI, the Department of Housing, Local Government and Heritage, Dublin City Council and South Dublin County Council in establishing provisional primary energy default factors for both the Tallaght and Dublin Docklands District Heating Schemes. These factors are necessary for entering the proposed district

heating system into the DEAP and NEAP methodologies in order to demonstrate compliance with building regulations. Codema also provides ongoing input into the legal discussion concerning the proposed structuring and development of the wider project.

#### Electric Vehicle Charging

##### Dublin Local Authority EV Strategy

In June 2022, the four Dublin Local Authorities published their 2022-2030 Electric Vehicle (EV) Charging Strategy, the first of its kind in this country. The objective of this study was to assess what public infrastructure should be deployed and where, the number of charging points needed and the level of investment that will be required over this decade. The Strategy has identified the need for the installation of up to 3,800 public residential electric vehicle charge points (EVCPs) across the county by 2030, led by the local authorities.

In September, Codema was appointed by the four Dublin Local Authorities to develop a process which will enable the delivery and ongoing operation of the required quantity of EVCPs. Codema will be responsible for the day-to-day running of this project, as well as overall project coordination, management and communications with stakeholders for an initial 18-month period. Risk analysis and allocation, contract analysis and contract selection have been included under this work programme. A procurement process is currently under development to enable the completion of the installation works and to appoint private sector partners to operate and manage the EVCPs, as per the Strategy. In December 2022, a funding proposal was submitted to the Department of Transport, which it is hoped will be able to cover a significant proportion of the DLAs' infrastructure and staffing costs relating to the rollout of the Strategy.

## PROJECT IMPLEMENTATION - KEY OUTPUTS FOR 2022



**NEW DEFAULT  
PRIMARY ENERGY  
FACTORS FOR  
DDHS AND TDHS**



**2 NEW EPC PROJECTS  
AT DETAILED PROJECT  
APPRAISAL STAGE**



**DELIVERY OF FIRST  
TWO EPC FACILITATOR  
TRAINING COURSES**

### Project Implementation - Actions and Outputs 2022

Date	Actions	Project support	Outputs
<b>Throughout year</b>	Providing technical advice for the Dublin Docklands District Heating System	--	Advising on technical and procurement aspects
<b>January</b>	Presentation to CCMA Meeting of LA Energy Performance Officers	DeliveREE	Presentation delivered
<b>February - March</b>	Gap-to-target analysis and project pipeline development for the 4 DLAs	DeliveREE	Excel reports
<b>March</b>	Site visit to Arthurstown Landfill for the solar PV project	DeliveREE	Understanding of site operation, requirements and limitations to feed into detailed appraisal
	DeliveREE 6-monthly meeting held for partners and advisory board	DeliveREE	Online meeting held, key issues from Guidance Document discussed
<b>April</b>	Finalising of EUCF contract terms and conditions with consultants	EUCF	Contract document
	Presentation of DeliveREE project pipeline to DLRCC Climate First Committee	DeliveREE	Presentation delivered
	District Heating study trip to Rotterdam	--	Agenda and minutes
	District Heating Steering Group meeting	--	Meeting agenda and minutes
	Draft protocols and procedures for the DeliveREE Project Implementation Unit submitted	DeliveREE	Draft protocols and procedures submitted as part of DeliveREE Work Package 3
<b>May</b>	Presentation of DeliveREE project pipeline to DCC management	DeliveREE	Presentation delivered



### 03. WORK PROGRAMME 2022

#### PROJECT IMPLEMENTATION (CONTINUED)

Date	Actions	Project support	Outputs
May	Presentation of DeliveREE project pipeline to SDCC EPO	DeliveREE	Presentation delivered
	Presentation of DeliveREE project pipeline to FCC EPO	DeliveREE	Presentation delivered
	Guidance Document (DeliveREE deliverable 2.3) was published to all DeliveREE stakeholders and on Codema social media channels and website	DeliveREE	Published Guidance Document summarising research and interviews
	Complete final draft of the Pathfinder position paper	--	Draft position paper developed
	EV workshop with DLAs	--	Meeting agenda and minutes
	DH Finance Working Group meeting	--	Meeting held
	District Heating Steering Group meeting	--	Meeting agenda and minutes
	Presentation to CCMA Meeting of LA Energy Performance Officers	DeliveREE	Presentation delivered
	Participation in PeacePlus workshop	--	Meeting agenda and minutes
	EU City Facility - Tallaght District Heating Expansion Analysis - Project Initiation	EUCF	Meeting held
	Audits of 3 SDCC buildings carried out	DeliveREE	Audit Reports for 3 SDCC Buildings
May - June			
June	Review of M&V for dlr Leisure and calculation of forecast payments	--	M&V report and calculation spreadsheet
	Creation of Airtable database to record progress on Project Implementation Unit protocols and procedures	DeliveREE	Airtable database for Project implementation Unit processes
	Development of Dublin region EV charging scope of works	--	Scope of works document developed
	Meetings on development of Primary Energy Factors for district heating with SEAI and DECC	--	Meetings held
	District Heating Steering Group meeting	--	Meeting agenda and minutes
July	District Heating Steering Group meeting	--	Meeting agenda and minutes
August	New default Primary Energy factors for DDHS and TDHS	--	Guidance for BER Assessors and building design professionals to be published on the SEAI website
	Workshop on DDHS structure	--	Workshop held
September	Commencement of project to assist DLAs in rollout of their public EV Charging Strategy	--	Project kick-off
	Creation of Airtable interface to display progress on Project Implementation Unit protocols and procedures in a user-friendly way	DeliveREE	Airtable Interface for Project implementation Unit processes
	Delivery of first EPC Facilitator Training course	SEAI	2-day EPC facilitator training course held
	Tours of Tallaght District Heating Scheme for DCAW	--	2 x tours delivered to 20+ participants

Date	Actions	Project support	Outputs
October	DeliveREE 6-monthly meeting held for partners and advisory board	DeliveREE	In person meeting held, key solutions discussed
	Support for Codema presence at AEE Europe Exhibition	DeliveREE	Exhibition stand at event
	DeliveREE presentation at AEE Europe Conference	DeliveREE	Presentation delivered
	Attended European ESCo Conference in Frankfurt	DeliveREE	Participation at conference
	Attended Covenant of Mayors Investment Forum and H2020 PDA project coordinators' meeting in Brussels	DeliveREE	Meeting agenda and presentations
	Development of Heat Works customer contract and workshop	--	Contract document
November	Finalisation of Project Implementation Unit (PIU) Risk Assessment, which will be used to develop a specification of updates required for the PIU and contract	DeliveREE	Project Implementation Unit (PIU) Risk Assessment created
	Submitted SDCC Buildings project Detailed Appraisal to SDCC	DeliveREE	SDCC Buildings Detailed Appraisal
	Delivery of second EPC Facilitator Training course	SEAI	2-day EPC facilitator training course
	Pricing Tool and Structure finalised for TDHS	--	Pricing tool and basis document
	Submitted buildings project Detailed Appraisal to DLRCC	DeliveREE	DLRCC Buildings Detailed Appraisal
December	Submitted final version of detailed Appraisal Report for Arthurstown Landfill to SDCC, following feedback and discussions	DeliveREE	Final version of Detailed Appraisal Report for Arthurstown Landfill
	Tallaght district heating network supplying heat	--	Heat supplied to customers
	Developed funding proposal to Department of Transport to assist with infrastructure and staffing requirements for rollout of EV charging strategy	--	Department of Transport funding proposal submitted
	Procurement of energy auditor for the Pavilion Theatre	--	Procurement documents
	Blanchardstown District Heating Feasibility Study Financial Analysis	--	Report



## 03. WORK PROGRAMME 2022



# AWARENESS, COMMUNICATIONS AND ENGAGEMENT

### Zero Together

In 2022, Codema's Awareness, Communications and Engagement team continued to work on Zero Together. The aim of this initiative is to create and deliver on a shared vision and strategy for the whole of Dublin to ensure we meet our emission reduction targets by 2030 and 2050. Zero Together directly addresses the fact that the public sector is only responsible for 5% of greenhouse gas emissions in Dublin, recognising that consistent and meaningful collaboration is required to effectively address the remaining 95% of emissions and accelerate Dublin's move away from fossil fuels. No single organisation, individual or sector can fully transform Dublin into a clean, healthy and low-carbon region. Zero Together is the catalyst to create a space for the necessary groups to come together and build consensus on the best pathways to move Dublin away from fossil fuels and to create a vision and strategy for Dublin that is ambitious, and more importantly, inclusive.

The Zero Together initiative was supported through the Horizon 2020 TOMORROW project until the end of 2022. This project brought together six pilot cities (Dublin plus Brasov, Brest-Metropolis, Mouscron, Nis and Valencia), with Energy Cities as co-ordinator and the Dutch Research Institute for Transitions (DRIFT) providing the transition management expertise.

In October, the Codema team travelled to Valencia for the final project conference to share the experience of the project and the output of Zero Together so far. A final project report was successfully submitted in November 2022, concluding the TOMORROW project.

### Zero Together Transition Team

The task of accelerating Dublin's transition away from fossil fuels requires expertise and perspectives from a broad range of sectors in Dublin and a team of committed people. Codema grounded the recruitment of this team in the theory of Transition Management; an approach used as a blueprint for countries, regions and cities in transition. Transition Management encourages the creation of a "transition arena", which is "a temporary setting that provides an informal and well-structured space to a small group of change agents from diverse backgrounds". DRIFT describes the gathering of change agents within this transition areas as: "...a group of ambassadors inspired to go beyond current interests and daily routines to engage in a series of meetings, jointly elaborating on a transition challenge, drafting a long-term vision, developing transition pathways to realise this vision.... developing a shared transition agenda, which provides a starting point for involving a wider group and instigating new activities, networks and collaborations".

This formed the basis of the creation of the Zero Together Transition Team. In 2021, Codema recruited 24 individuals representing a diverse range of sectors including business, transport, academia and public bodies. This team engaged in nine deliberative workshops, which ran from September 2021 to November 2022. Each workshop was meticulously planned and designed by a professional facilitator. This ensured that the space or "transition arena" was inclusive and well-structured. Each workshop explored a different objective such as creating a shared vision, identifying the barriers to a fossil fuel free



Dublin and developing key actions and goals to address these barriers.

Most notably, the team agreed on four strategic directions in which to ground the strategy; 1) Accounting for a Just Transition, 2) Making climate action more democratic and inclusive, 3) Providing clear and honest communication and education and 4) Designing, planning and implementing solutions for climate and biodiversity action. These strategic directions are the foundational principles guiding Zero Together and underpin the actions of the strategy.

The goals for Zero Together for the next year are:

- For the Transition Team to continue to work together to finalise and implement the Zero Together strategy to ensure that Dublin will achieve net-zero by 2050.
- To have established an executive committee to support and advocate for the work of the Transition Team and Zero Together initiative.
- To continue to include and engage those living, working and studying in Dublin and incorporate their views into the final strategy.
- To gain senior political buy-in by ensuring that the roadmap is adopted in policies/plans; using effective communication to ensure those that we need to secure support from, at a senior level, are fully committed.
- To connect and align with key stakeholders across Dublin to secure buy-in and the successful implementation of the Zero Together strategy.

### **Zero Together Public Engagement and Communication**

Public engagement and communication is a core tenet of the Zero Together initiative. All four strategic directions outlined above require extensive stakeholder engagement and clear communication. Three out of the four strategic directions are specifically related to effectively including and engaging the people of Dublin in the energy transition. We are living in an unprecedented time with the decisions made in the next eight years impacting the lives of the people living, working and studying in Dublin for decades to come. Codema has provided ground-breaking research with the Dublin Region Energy Master Plan but the rapid and urgent change that is needed will not succeed unless we effectively engage the people of Dublin in these solutions and the decision-making process, ensuring that we communicate clearly and honestly about Dublin's energy transition.

In 2022, several public engagement and communication activities were implemented including:

- Hosting and participating in a range of events as part of Dublin Climate Action Week 2022 that aimed to inform, engage and inspire the public on how we currently use energy and produce emissions in Dublin, and how we can improve on this towards 2030 and 2050. These events ranged from tours of district heating sites, information on saving energy in the home, engaging businesses in the energy transition, through to identifying barriers and solutions for Sustainable Energy Communities in the Dublin and Mid-East region.

### 03. WORK PROGRAMME 2022

#### AWARENESS, COMMUNICATIONS AND ENGAGEMENT (CONTINUED)

- Creating Zero Together social media channels on platforms such as Facebook, Instagram and Twitter to generate awareness on the need to move Dublin away from fossil fuels and the science behind it.
- Commissioning a dedicated website for Zero Together to act as a central hub of information for the public, so that the people of Dublin can be informed on the best pathways to meet our 2030 and 2050 targets and have clear calls to action on how they can play their part.
- The launch of the "Postcards from Dublin 2050" campaign. The objective of which is to create a shared vision of a fossil fuel free Dublin, with the people of Dublin. This campaign has involved 250 participants, so far, writing a postcard from the year 2050, describing what life is like in a Dublin free from fossil fuels. This campaign has provided a clear insight into the Dublin people wish to see in 2050 and will be incorporated into the final vision and strategy of Zero Together.

#### Think Energy

##### Home Energy Saving Kit

The Home Energy Saving Kit scheme expanded even further in 2022, as we developed an additional 120 kits for libraries and other organisations across the country. This allowed us to double the number of regions in Ireland where the Home Energy Saving Kit is available, and the kits are now available to borrow free-of-charge from over 170 libraries nationwide. This expansion was supported through ongoing training with library networks across the country, webinars and consistent online promotion.

The Home Energy Saving Kit contains five practical tools to help you save energy and identify possible problem areas in your home that may need to be addressed and has been running very successfully since it was first piloted in Dublin City Council's Public Libraries in 2016.

As part of the scheme, Codema carried out extensive staff training on the Home Energy Saving Kit and promoted the kit at a range of events focused on energy savings and efficiency (see section on next page). This allowed library staff and the general public to get a demonstration of the Home Energy Saving Kit, see how the tools work and ask any questions about the scheme and the borrowing process.





The Home Energy Saving Kit also received notable recognition throughout the year, featuring on RTÉ One Television's consumer show 'The Price of Everything' and across other national media channels. The initiative also ended the year on a very positive note, by winning the prestigious Energy Globe Award for Ireland in December.

### Energy Awareness Events and Activities

With the emergence of a global energy crisis in 2022 amid the war in the Ukraine, we expanded on our existing Think Energy activities to provide simple, practical tips to householders at various events throughout the year and also on our Think Energy online hub. This included energy saving presentations to staff in organisations such as Clúid, National Broadband Ireland and Transport Infrastructure Ireland. We also participated by having a Think Energy information stand and providing demonstrations of our Home Energy Saving Kit at events such as Richmond Barracks May Fair, Grangegorman Development Agency's Climate Action Day and two Eirgrid Energy Citizens Roadshows. We also collaborated with organisations such as the Northside Partnership through their 'Money Made Sense' initiative and participated in two library workshops in Raheny and Rathmines to deliver energy-saving information through the Sustainable Life School.

We also built out our content for our Think Energy online hub with useful information for the public; this included a new episode within our 'Ask the Experts' series, which featured Eric Dennis from KSN Energy and focused on the specifics of the new government retrofit grant programmes that were launched in 2022 for householders. Additionally, all of the Codema team recommended their best energy-saving suggestion during the energy crisis; this resulted in an information blog post being developed with a range of top energy-saving tips from all of our staff to help the public reduce their costs, where possible.

### Key Events

#### Dublin Climate Action Week 2022

Codema was delighted to be part of the organising committee for Dublin Climate Action Week 2022 (DCAW22), which took place from 12th - 17th September. DCAW22 was a collaboration between the four Dublin Local Authorities, the Dublin Climate Action Regional Office (CARO) and Codema, and resulted in a week-long programme of events to inspire the public on a range of climate issues. The overall vision for DCAW22 was 'to highlight Dublin's climate action progress to its citizens and demonstrate the leadership role of the four local authorities in conjunction with other partners'.

Photo courtesy of Ben Ryan



### 03. WORK PROGRAMME 2022

AWARENESS, COMMUNICATIONS AND ENGAGEMENT (CONTINUED)



Codema took a lead on the web development of the programme and oversaw the updating of the Dublin Climate Action Week website, which went live in June 2022 as part of the DCAW22 soft launch. The website acted as the central platform to allow the public to view and register for all events taking place during the week. Online event registration opened in August 2022 and allowed people to register for a range of great events covering topics such as energy and buildings, transport, flood resilience, nature-based solutions, resource management and citizen engagement.

Over 40 online and in-person events took place throughout the week, which included webinars, training workshops, site visits, bike clinics and walking tours. Within this, Codema organised or supported the following successful events during Dublin Climate Action Week:

- 2 x tours of the Tallaght District Heating Scheme
- Get Energy-Saving Savvy This Winter (Dún Laoghaire-Rathdown County Council pop-up shop)
- Youth Climate Conference (South Dublin County Council event)
- Women in Energy Panel Discussion
- Inspiring Businesses in the Energy Transition (in collaboration with Patagonia and Dublin Town)
- Capacity-building workshop with Sustainable Energy Communities in the Dublin and Mid-East Region
- Enniskerry Sustainable Energy Community's Energy Awareness Day

- Balbriggan SEC's Draught Proofing and Insulation Workshop
- Postcards from Dublin 2050 - campaign that began during DCAW22 and ran until December, asking the people of Dublin to vision our capital free from fossil fuels in 2050 (see Zero Together section earlier in this chapter)

#### Launch of the Dublin Region Energy Master Plan Results

In June 2022, Codema organised the launch of the results of the Dublin Region Energy Master Plan, which was a three-year study carried out by our Research, Development and Innovation team to identify the most realistic, evidence-based solutions to reduce emissions related to heat, electricity, transport and buildings in Dublin.

The study - the first of its kind to be carried out in Ireland - showed that Dublin has the potential to meet its emission targets and even become a net-exporter of energy by 2050. Within this, the research found that offshore wind, district heating, heat pumps and prioritising buses and active travel over cars all have a pivotal role to play in achieving these targets.

There was widespread interest in the launch of the master plan results, with over 150 attendees joining on the day and extensive media coverage, which included coverage on RTÉ 1's Nine O'Clock news that evening. To support the launch, a range of accessible communications materials was developed by Codema's Awareness, Communications and Engagement team, including a suite of infographics and a plain-English





summary of the findings.

## Sustainable Energy Communities

Throughout 2022, Codema continued its work as the regional coordinator for the Dublin and Mid-East Region of SEAI's Sustainable Energy Communities (SEC) programme. The region includes SECs in Dublin City, Dún Laoghaire-Rathdown, Fingal, South Dublin, Wicklow, Kildare and Meath, with a dedicated County Mentor assigned to each local authority area.

In 2022, Codema and its County Mentors facilitated the recruitment of 25 communities to the SEC network in the Dublin and Mid-East Region, bringing the total number of SECs in our region to 175 by the end of the year.

Throughout the year, Codema's Communications Team highlighted new SECs that joined the network and continued to promote the work of SECs within the region, as well as promoting the national Sustainable Energy Communities programme in general.

### SEC Events

As mentioned earlier in this section, Codema organised an in-person capacity-building workshop for SECs from the Dublin and Mid-East Region in September 2022, as part of Dublin Climate Action Week. Aiming to provide information to help SECs better progress through the various stages of the SEC programme, as well as identifying areas where our region's SECs would benefit from further support and development, the event was a great success, with 63 attendees on the day representing SECs from across the region.

Codema also supported individual SECs with the organisation of their own separate events during Climate Action Week, namely Balbriggan SEC's Draught Proofing and Insulation Workshop, and Enniskerry SEC's Energy Awareness Day.

In November, Codema presented information on energy saving light bulbs and efficient use of lighting to webinar participants, as part of SEAI's SEC Winter Workshop Series.

In addition to the events described above, Codema also helped SECs to promote the following local events throughout 2022:

- May: Drimnagh (St John Bosco Youth Centre) SEC's community engagement event, where Codema attended and gave a presentation on our Home Energy Saving Kits and on home energy savings and awareness
- June: DLRCC's SEC launch to showcase the Council's support of local SECs in preparing their Energy Master Plans
- June: Trim SEC's Energy Master Plan launch, at which Codema promoted our Home Energy Saving Kits and energy savings and awareness
- October: Portmarnock SEC's Energy Master Plan launch, where Codema attended and gave a presentation on our Home Energy Saving Kits and on home energy savings and awareness

### 03. WORK PROGRAMME 2022

AWARENESS, COMMUNICATIONS AND ENGAGEMENT (CONTINUED)

#### AWARENESS, COMMUNICATIONS AND ENGAGEMENT - KEY OUTPUTS FOR 2022



**ORGANISED / SUPPORTED  
9 EVENTS / INITIATIVES FOR  
DUBLIN CLIMATE ACTION  
WEEK**



**250 'POSTCARDS FROM  
DUBLIN 2050' RECEIVED  
FROM THE PUBLIC**



**7 X WORKSHOPS CARRIED  
OUT WITH ZERO TOGETHER  
TRANSITION TEAM**

#### Awareness, Communications and Engagement - Actions and Outputs 2022

Date	Actions	Project support	Outputs
<b>January</b>	Visual identity developed for DeliveREE project	DeliveREE	Range of branding collateral and brand guidelines developed for DeliveREE
	Zero Together Workshop on Underlying Contradictions	TOMORROW	Online workshop held, key barriers identified
	Think Energy & Travel funding application submitted to Community Climate Action Fund - Strand 2	--	Application submitted but unsuccessful
<b>February</b>	Presentation of Dublin Region Energy Master Plan results to Zero Together Transition Team	TOMORROW	DREM results presented and discussed with Transition Team
	Valencia online study "visit"	TOMORROW	Learnings of Valencia's energy transition shared with the consortium
<b>March</b>	Zero Together Workshop on stakeholder buy-in	TOMORROW	Online workshop held, key stakeholders initially identified
	Organised DREM presentation to Dublin Chamber of Commerce's Sustainability Task Force	TOMORROW	DREM findings presented to approx 20 attendees
	SEC Communications Plan developed	SEC	SEC Communications Plan finalised for 2022
	Presented on branding and visual identity and comms activities for DeliveREE partners' meeting	DeliveREE	Visual identity presented and key aspects of WP5 (Comms) outlined to consortium
	Brest Study Visit	TOMORROW	Learnings of Brest's energy transition shared with the consortium
	Collaboration with Clúid Housing	--	2 x presentations on energy savings to Clúid staff and residents associations



Date	Actions	Project support	Outputs
<b>March</b>	Podcast interview with Energy Cities	TOMORROW	Interview with Energy Cities on Dublin's energy transition
<b>April</b>	Zero Together Transition Team Workshop on Strategic Directions	TOMORROW	Workshop held, four key Strategic Directions identified
	HESK featured on RTÉ's The Price of Everything programme	--	HESK coverage on RTÉ
	Ask The Expert video recorded and published	--	Video of grants updated with Eric Dennis
<b>May</b>	Case study presentation on Leuven 2030 to Zero Together Transition Team	TOMORROW	Presentation delivered to transition team members
	Collaboration with Northside Partnership	--	Presentation on energy savings and HESKs to "Money Made Sense" participants
	Zero Together Transition Team Workshop on Focused Implementation	TOMORROW	Workshop held, implementation steps identified
	Promotion of Drimnagh SEC event	SEC	Event promoted on Codema website and social media. Attended event and presented on HESK and general home energy savings
	Organised presentation on the results of the Dublin Region Energy Master Plan to DLA staff	--	Online presentation held with approx 40 attendees
	Richmond Barracks May Fair	--	Attended Richmond Barracks May Fair with HESK
<b>June</b>	Phase 4 of the Home Energy Saving Kits implemented	HESK	120 Home Energy Saving Kits delivered to 26 library networks / organisations
	Organised public launch of the results of the Dublin Region Energy Master Plan	--	Online launch held with approx 150 attendees, coverage on RTÉ 9 o'clock news
	Summary brochure and series of infographics developed to communicate DREM finding	--	Summary brochure and infographics uploaded to website and shared on social media
	Zero Together Transition Team Workshop on next steps	TOMORROW	Workshop held, next steps identified
	Participated in DLRCC SEC launch	SEC	Promoted DLRCC's support of local SECs in preparing their Energy Master Plans
	Participated in Trim SEC Launch	SEC	Promoted HESK and energy savings and awareness
	Strategy for Zero Together mini-public developed	TOMORROW	Strategy developed and presented to Lord Mayor, elected members and senior staff in DLAs
	Facilitated the online announcement of DCAW 2022	--	Website updated and DCAW announcement made live
	Participated in Grangegorman Development Agency's Climate Action Event	--	Think Energy stand / HESK demos set up at event
	Mouscron study visit	TOMORROW	Learnings of Mouscron's energy transition shared with the consortium

### 03. WORK PROGRAMME 2022

#### AWARENESS, COMMUNICATIONS AND ENGAGEMENT (CONTINUED)

Date	Actions	Project support	Outputs
July	SEC online focus group held to determine topics of DCAW event	SEC	Key themes identified for September workshop
	Collaboration with National Broadband Ireland	--	Presentation to over 20 staff in NBI on energy savings
August	Oversaw launch of DCAW online event registration	--	DCAW programme officially launched and events open on website for registration
September	Organised district heating conference on behalf of IrDEA	IrDEA	Conference launched by Minister Eamon Ryan TD with approx 150 attendees
	Participation at SEAI's National Policy Conference	TOMORROW	Presentation on Zero Together to over 700 attendees
	Launch of Dublin Climate Action Week 2022	--	Programme officially launched in Clondalkin Round Tower Visitor Centre
	2 x public tours of the Tallaght District Heating Scheme, as part of DCAW	--	2 x tours sold out, increased awareness and engagement on the scheme among 40 attendees
	SDCC Youth Conference, as part of DCAW	TOMORROW	ZT visioning exercise and HESK demo carried out with approx 50 students
	Participated in DLRCC's energy-saving pop-up shop as part of DCAW	--	Energy awareness material distributed to approx 30 members of the public
	Women in Energy event held as part of DCAW	--	In-person event held with approx 45 attendees
	Inspiring Businesses in Dublin's Energy Transition - DCAW event	TOMORROW	Zero Together / DCAW event held in partnership with Dublin Town and Patagonia, presentation on ZT and DREM to approx 35 attendees
	Sustainable Energy Communities capacity-building workshop during DCAW	SEC	Workshop held with 63 attendees representing SECs from across the Dublin and Mid-East region
	Helped promote events organised by Sustainable Energy Communities as part of DCAW	SEC	Assisted SECs with the promotion of their DCAW events
	Design brief developed for Zero Together website	TOMORROW	Design brief issued to 4 companies for quotation
	Collaboration with Transport Infrastructure Ireland	--	Presentation to over 20 staff on energy savings and Postcards from Dublin 2050
	Collaboration with DCU	--	Presentation to 30 masters students on Zero Together and Postcards from Dublin 2050
September - December	Phase 1 of Postcards from Dublin 2050 campaign launched	TOMORROW	250 postcards received from people of Dublin, setting out their vision of our capital free from fossil fuels

Date	Actions	Project support	Outputs
October	Think Energy awareness stand at 2 x EirGrid Energy Citizens Roadshow events	--	55 participants in attendance at each roadshow
	Research organisation commissioned to identify and build recommendations for most vulnerable groups within Dublin's energy transition	TOMORROW	TASC appointed as research partner and kick-off meeting held
	Zero Together website discovery workshop held	TOMORROW	Workshop held and work plan and timeline agreed
	Presentation of Postcards from Dublin 2050 campaign at DCU	TOMORROW	Presentation to approx 20 undergraduate students at DCU
	Valencia study visit and final TOMORROW conference	TOMORROW	Codema participation at conference and study visit
	Codema exhibition stand at AEE exhibition	DeliveREE	DeliveREE, Dublin Region Energy Master Plan and district heating work promoted
	Portmarnock EMP Launch	SEC	Presentation on HESK, home energy savings and awareness
November	Zero Together workshop held to present draft roadmap to Transition Team	TOMORROW	Workshop held and feedback gathered on roadmap
	TOMORROW deliverables completed	TOMORROW	Zero Together roadmap submitted to European Commission
	Collaboration with the Sustainable Life School	TOMORROW	2 x workshops on energy savings at Rathmines and Raheny library to 20 participants and Postcards from Dublin 2050 presented
	Presentation as part of SEAI SEC Winter Workshop Series	SEC	Presented information on energy saving light bulbs and efficient use of lighting to participants
December	Home Energy Saving Kit presented with national Energy Globe award	--	Energy Globe certificate awarded to Home Energy Saving Kit scheme
	Energy Saving talks and presentation of Postcards from Dublin 2050 campaign in libraries	--	2 x talks on energy savings at County Library and Central Library to around 20 participants and Postcards from Dublin 2050 completed

### 03. WORK PROGRAMME 2022



## RESEARCH, DEVELOPMENT AND INNOVATION

#### Energy Planning

##### Dublin Region Energy Master Plan

The Dublin Region Energy Master Plan (DREM) is the first regional energy master plan in Ireland. The master plan provides realistic, costed pathways for the Dublin region to achieve its carbon emission reduction targets to 2030 and 2050. These pathways have been based on detailed local-level, spatially-driven energy scenario modelling and identify low-carbon technologies specific to the energy characteristics of a particular area at a local level, which has not been carried out before for any county in Ireland.

To do this, the master plan brings together and amalgamates, for the first time, all the relevant government and various energy-related departments' plans and policies together to show their impact at a county/local level. The master plan addresses all energy sectors of electricity, heat and transport, and crucially has been modelled from a spatial perspective, technology perspective and also from a socio-economic perspective. This project also identifies and supports the use of low-carbon sources indigenous to Dublin, develops and harnesses new, local-level energy policy practices, and strengthens Ireland's integrated energy system modelling capabilities. Two baseline scenarios have been established; the first being the current situation and the future 'business-as-usual' situation, which models the effects of current national level policy implementation to 2030 and 2050.

From these, Codema then established the gap-to-targets, and evaluated the possible local level low-carbon pathways to meet these targets. The low-carbon potential of Dublin has

been based on its unique spatial energy characteristics, which are often overlooked when examining low-carbon pathways at a national level. This project is the first of its kind in Ireland, and aligns with the objectives outlined in national level energy and climate change policy.

During 2022, Codema completed the final Dublin Region Energy Master Plan report, and carried out wide-ranging stakeholder engagement, from presentations and workshops with Dublin Local Authorities, to a public launch presentation and many additional presentations across the energy sector, and public and private sectors.

##### REDAP

Codema was a partner in the REDAP (Regional Energy Demand Analysis Portal) project, which was approved under the 2018 European Research Area Network (ERA-Net) Smart Energy Systems fund and was supported by the Sustainable Energy Authority of Ireland. Other project partners included AIT - The Austrian Institute of Technology, Chalmers University of Technology, Spatial Outlook Ltd., and the Irish Centre for High End Computing (ICHEC). REDAP, which started in November 2019, presented a cross-sectoral approach to regional energy systems and explored how to help end-users to spatially visualise and better understand the characteristics of urban energy demand.

This project builds on the work Codema had previously done in developing the Spatial Energy Demand Analysis (SEDAs) for the four DLAs and the Dublin Region Energy Master Plan and has provided useful insights that will help Codema to continue



to develop its capacity in spatial energy planning. This spatial energy planning approach will support the local authorities, planners and policy-makers to make more informed decisions relating to energy demand, energy efficiency and renewable energy alternatives, while also generating an increased evidence base to inform further project feasibility and implementation. This project was completed in 2022.

## GHG Modelling

### Q-GasSP

Codema was a partner in the Q-GasSP project, along with Tallinn University of Technology (TalTech), Stockholm Environment Institute (SEI) and Oivan. The project began in 2020 and finished in September 2022. The objective of this research project was to produce a methodology that will allow planning authorities at national, regional and local administrative levels to quantify the influence of spatial planning policies on GHG emissions in a consistent manner. The project also supported pan-EU alignment work on utilisation of consistent data and pan-EU alignment work on emissions accounting methodologies to allow better comparability across Europe on this key topic. An additional purpose of the project was to help inform policy considerations at different administrative scales, which can ultimately assist national, regional and local policy decision-makers across EU Member States and ESPON Partner States in meeting their GHG emission reduction targets.

A key output has been the development of several methodologies for emissions accounting in a European

context, including the current standard approach of territorial approach, and the complementary consumption based approach, which is likely to gain in importance and significance over the coming years and decades. These methodologies are represented in a Greenhouse Gas Impact Assessment (GGIA) tool produced by the project and applied as a case study in the following territorial zones: the Eastern and Midlands Regional Assembly (Ireland), the Scottish Government – Planning and Architecture Division (UK); Department of Infrastructure, Northern Ireland (UK), and the Regional Council of Kymenlaakso (Finland).

This project has contributed to the further development of Codema's knowledge and approach to baseline emissions assessment, and supports Codema to continue this work in Dublin.

## Low-Carbon Heat

### Dublin Docklands District Heating System

Codema is part of the Dublin Docklands District Heating System (DDHS) project team, advising on policy, energy planning, technical aspects and energy procurement/contracting. On behalf of the project team, Codema attended 34 meetings in 2022, providing advice on district heating planning, policy, demand risk, financial feasibility, technical design review, quality assurance and assessing extension opportunities for the district heating network. Codema is also working with the legal and procurement team on the assessment of the most optimal contracting and procurement approach for the development and roll out of the system and with the development of the draft Joint Venture agreement.





Photo courtesy of Fortum

### Tallaght District Heating Scheme

In 2022, Codema supported the delivery of some key milestones on the Tallaght District Heating Scheme (TDHS), including the delivery of heat customers in the first quarter of 2022, exploring opportunities for the network to provide services to the electricity grid, providing details for inclusion in the new Part L Building Regulations for the TDHS, along with reviewing network extension and connection costs.

Codema participated in five TDHS meetings in 2022 and organised five site visits for the SEAI, government officials, the national District Heating Steering Group and Dublin Climate Action Week attendees. Codema has been continuously liaising and negotiating with possible TDHS customers, including Trulife and the Tallaght Hospital, and has installed heat meters and analysed the heat consumption at customer premises and provided this information to the district heating network designers to help optimise the design and operation of the network. A connection cost calculator tool was also developed to help assess likely connection costs for new customers and how this could be fairly allocated.

Codema has also helped disseminate knowledge from developing the network through delivering presentations and engaging in interviews with various media organisations and appearing on shows such as “10 Things to Know About”, RTÉ News, etc. Codema also supported SDCC in the successful application for EUCF funding. The funding supported the consultancy TEN21 to review and develop a commercialisation plan for the expansion of the Tallaght District Heating Scheme. The project kicked off in May 2022 and is due for completion in March 2023.

### Blanchardstown District Heating Scheme

In 2022, Codema continued stakeholder engagement on a proposed district heating system for the Blanchardstown area. This included key customers such as TU Dublin Blanchardstown, HSE Connolly Hospital, Sport Ireland and their engineering consultants Arup, and Fingal County Council, as well as stakeholders from potential local heat suppliers, Equinix and Amazon Data Centres.

In 2022, Codema started the process of gathering the technical information to develop a feasibility report to determine the project's viability. The gathering of data included site visits to potential heat customers such as the TU Dublin Blanchardstown Campus, Connolly Hospital, and the Sports Ireland Campus. A techno-economic analysis of the preferred pipework route, construction and operational temperatures was carried out to obtain a cost optimal solution. Energy modelling software was used to optimise system design and assess potential heat sources for the district heating scheme. In addition to the technical analysis, Codema also carried out a financial analysis of the scheme to determine the investment, payback and expected NPV (Net Present Value). Advice on the possible procurement routes and business models is also provided in the report. The report was finalised in February 2023 and Fingal County Council is considering this report to decide how this project might progress.

### Climate Action Fund

Codema supported SDCC in the CAF grant drawdown process by preparing the financial documentation required for successful payment of grants. Full drawdown of all milestone payments is set to be complete by mid-2023.





### **Decarb City Pipes 2050**

In 2022, Codema continued our work on the Decarb City Pipes 2050 project. This three-year project focuses on the decarbonisation of heat through capacity building in cities. This includes creating local working groups (made up of key local stakeholders) to outline gaps in knowledge (planning methodologies, tools, policy instruments, effective governance structures, etc.) and then go about addressing these gaps through deep peer-to-peer learning with input from an experienced advisory board.

Codema is part of the project's management team. In this role in 2022, Codema attended six management team meetings to develop the overall direction of the project in conjunction with the other management team members and three full consortium meetings, which ensure input from all partners is included in developing the direction of the project. Codema attended three in-person multi-day project meetings in April, May and November 2022. These project meetings were held to learn about the heating and cooling transition progress in partner cities, hold workshops to develop project deliverables, engage with the project advisory board and discuss key aspects of the partner cities' heat transition. In 2022, Codema brought together key local stakeholders of the Dublin Local Working Group for two meetings to develop Dublin's Transition Roadmap.

As part of this project in 2022, Codema supported the delivery of the guidance for cities developing heating and cooling plans, a cross-city synthesis of the city heating and cooling plan and a report on data needs and accessibility.

Codema is leading the Transition Roadmap Work Package (WP4), supporting each partner city to develop robust, actionable, time scheduled transition roadmaps which have local buy-in and clearly identified responsible parties. Codema will continue to work closely with other WP leaders to develop peer-to-peer learning sessions that address knowledge gaps identified by the Local Working Group.

### **Fundamentals of District Heating Training Course**

In 2022, Codema delivered the second "Fundamentals of District Heating" course in conjunction with Engineers Ireland. This course aims to introduce the key concepts and fundamentals of district heating systems across the main stages in a heat network's development from initial heat planning and policy, business case development, through to the design and construction of the network. This course looks to build capacity in the area of district heating, a sector which is expected to grow dramatically to meet 10% of Ireland's commercial and residential heat demand by 2030. This course was attended by a broad spectrum of attendees from engineering consultancies, utilities and developers and is due to take place again in the coming year to further build knowledge in the sector.

### **Climate Change**

#### **Dublin Local Authority Climate Action Plans and Decarbonising Zones**

In 2022, Codema attended the quarterly CARO regional steering committee meetings and climate action team meetings and we continued to liaise with the Covenant of Mayors (CoM) to support alignment between the DLAs' Climate Action Plans (CAPs) and the CoM requirements. Also in 2022 Codema:

### 03. WORK PROGRAMME 2022

#### RESEARCH, DEVELOPMENT AND INNOVATION (CONTINUED)

- Supported the development of the national guidelines for the new Local Authority Climate Action Plans, which the Dublin Local Authorities will begin in 2023. Codema supported these guidelines as part of the 'Project Advisory Group' convened by EPA, CARO & Climate Ireland.
- Following on from the Decarbonising Zone selection reports completed in 2021, in 2022 Codema engaged and supported the Dublin Local Authorities in pre-planning for their full Decarbonising Zone Implementation Plans, including initiation of the Dún Laoghaire-Rathdown County Council analysis.

#### Development Plans & Policy Papers

##### County Development Plans Energy and Carbon Assessment Report

In 2022, Codema performed an energy and carbon analysis to provide supporting evidence for the Fingal County Council County Development Plan. It included an updated and more in-depth assessment of the impact on energy demand, and evidence-based actions to reduce energy and carbon emissions, building on the Dublin Region Energy Master Plan. One of the key requirements of these assessment reports was

to inform Fingal County Council's County Development Plan to ensure that it supports the wider regional objectives as set out in the Eastern and Midlands Regional Assembly's Regional Spatial and Economic Strategy. As part of these assessments, Codema analysed and made policy recommendations in the following areas:

- Green infrastructure and increased carbon sequestration
- District heating opportunities
- Electric vehicles, charging infrastructure and transport
- Wind energy, both onshore and offshore, solar energy and the potential increase in renewable energy generation
- Energy efficiency in buildings and net-zero energy buildings
- Social and economic impacts

##### Ongoing Support for Local Authority Planning Teams

Codema also provided ongoing support to the four Dublin Local Authority planning teams with respect to planning decisions where energy or climate mitigation was a key consideration. Such sites include data centres and other large energy users.



### Public Consultations

In 2022, Codema made numerous submissions to public consultations that support our work and the work of the DLAs in the area of energy and climate change. These submissions are:

- Public Consultation on Carbon Budgets (DECC)
- Public Consultation on the Draft Policy Statement on Geothermal Energy (DECC)
- CRU Consultation on Gas Networks Ireland Ten Year Development Plan
- ESB Networks Innovation Plan 2022
- Public Consultation on EV Charging Infrastructure Strategy 2022-2025 (DECC)
- Public Consultation on the introduction of the European Union (District Heating) Regulations 2022 (DHLGH)
- Irish Green Building Council Consultation on the Draft Net Zero Whole Life Carbon Roadmap for the Built Environment in Ireland
- Public Consultation on Draft Planning and Development Act (Solar Exemptions) (DECC)

- Public Consultation submission on Developing a Hydrogen Strategy for Ireland (DECC)
- Public Consultation on Small-Scale Generation Support Scheme (DECC)
- Public Consultation - Call for Expert Evidence - CAP 23 (DECC)
- Public Consultation - Energy Poverty Strategy Review (DECC)

### Policy Analysis and Decarbonised Energy Fora

During 2022, Codema's Research, Development and Innovation team participated in the following policy analysis and decarbonised energy fora:

- DECC National District Heating Steering Group
- ESB Networks National Networks Local Connections Advisory Group
- ESB Networks Stakeholder Innovation Panel
- Codema's Zero Together Transition Team
- Decarb City Pipes project steering group
- Smart Dublin's Open Data Climate Action Challenge
- Invited to join the new DECC Geothermal Advisory Group





### 03. WORK PROGRAMME 2022

RESEARCH, DEVELOPMENT AND INNOVATION (CONTINUED)

#### RESEARCH, DEVELOPMENT AND INNOVATION - KEY OUTPUTS FOR 2022



**COMPLETION AND  
LAUNCH OF THE DUBLIN  
REGION ENERGY MASTER  
PLAN**



**FINGAL COUNTY  
COUNCIL ENERGY  
& CO<sub>2</sub> ASSESSMENT  
FINALISED**



**COMPLETION OF  
REDAP & Q-GASSP  
PROJECTS**

#### Research, Development and Innovation - Actions and Outputs 2022

Date	Actions	Project support	Outputs
Throughout year	Dublin Region Energy Master Plan presentations: Dublin Climate Action Week, Patagonia, Dublin Chamber, Irish Green Building Council, Irish Building Stock Observatory, Zero Together Transition Team, Friends of the Earth	--	Presentations
	Dublin Region Energy Master Plan interactive workshops with DLAs' planning teams x2, DLA housing department x1	--	Workshops delivered
	National District Heating Steering Group Participation	--	Input into Report to Government on District Heating
	ESB Networks National Networks Local Connections Advisory Group Meetings, ESB Networks Stakeholder Innovation Panel Meetings	--	Attended meetings as advisory group member
	Supported workshops to develop geothermal and district heat demonstration proposal for application to Interreg PeacePlus Programme	--	Project proposal
	Zero Together transition team workshops and roadmap planning	TOMORROW	7 workshops held to get Zero Together Roadmap to draft stage
	Advisory services for planning applications	--	Advisory on energy aspects of planning applications
	Providing technical advice for the Dublin Docklands District Heating Scheme	--	Advisory on technical aspects and planning submissions
	Multiple project and steering group meetings for Decarb City Pipes project	Decarb City Pipes 2050	Attended meetings and provided input on the direction to the project



Date	Actions	Project support	Outputs
February	Response to Public Consultation on Carbon Budgets	Decarb City Pipes 2050	Consultation Response Document
	Dublin Region Energy Master Plan Report Completion	SEAI RD&D	Final Report
March	Codema Submission on Geothermal Energy Consultation	--	Consultation Response Document
	Kick-off Poolbeg Sector Integration project	SEAI RD&D	Kick-off project
	Codema Submission to CRU Consultation on Gas Networks Ireland Ten Year Development Plan	--	Consultation Response Document
	Codema Submission on ESB Innovation Plan 2022	--	Consultation Response Document
	Grow Green Burn Blue Project Kickoff	SEAI RD&D	Kick-off project
April	REDAP project completion	REDAP	Project final report, website, presentations
	Report to Support Part L Derogation for TU Dublin Grangegorman	--	Report
May	Dublin Region Energy Master Plan Launch for Dublin Local Authorities	--	Presentation
	SEAI RD&D Submissions x 2 developed	--	Research applications submitted
	Tallaght District Heating presentations in Vienna	Decarb City Pipes 2050	Presentations at international conference
	Decarb City Pipes Deliverables	Decarb City Pipes 2050	Project Report
	EU City Facility - Tallaght District Heating Expansion Analysis - Project Initiation	EUCF	Meeting
	Support for Smart Dublin Open Data Climate Action Challenge	--	Public engagement on climate action
June	Dublin Region Energy Master Plan Public Launch	--	Presentation delivered to 150+ attendees
	Blanchardstown District Heating Feasibility Study initiation, stakeholder workshops	FCC	Meetings and workshops
	Codema Submission on EV Charging Infrastructure Strategy 2022-2025	--	Consultation Response Document
	Engineers Ireland "Fundamentals of District Heating" one-day course	--	Course delivered
July	Summary of the Strategic Assessment Report for DDHS	--	Report
	Codema submission on EU DH Regulation	--	Consultation Response Document

### 03. WORK PROGRAMME 2022

#### RESEARCH, DEVELOPMENT AND INNOVATION (CONTINUED)

Date	Actions	Project support	Outputs
July	Codema Submission to Consultation on Draft Planning and Development Act (Solar Exemptions)	--	Consultation response document
	Fingal County Council Energy and Carbon Assessment	FCC	Report and Presentation
	Irish Green Building Council Consultation on the Draft Net Zero Whole Life Carbon Roadmap for the Built Environment in Ireland	--	Consultation Response Document
August	Consultation submission on Developing a Hydrogen Strategy for Ireland	--	Consultation Response Document
	Masters Thesis developed in conjunction with Trinity College Dublin and Codema on Heat Network Zoning in Ireland	--	Thesis document submitted and presentation delivered to faculty at TCD
September	Celsius Summit	--	Workshop on the value of the Celsius group and future important areas
	Irish District Energy Association annual conference	--	Presentation on developing district heating projects in Ireland
	Tours of Tallaght District Heating Scheme for DCAW	--	Tours delivered
	Research proposals for UCD Masters students on optimal retrofitting and building thermal mass storage	--	Developed research proposals and provided support to students
	Codema Submission to Consultation on Small-Scale Generation Support Scheme	--	Consultation Response Document
	Codema Submission - Call for Expert Evidence - CAP 23	--	Consultation Response Document
	Q-GasSP project completion	Q-GasSP	Final Report
	Codema Response to Hydrogen Consultation	--	Consultation Response Document
	Presentation to Department of Transport on Codema's transport modelling	--	Presentation
	Codema Response to the Energy Poverty Strategy Review	--	Consultation Response Document
October	Presented at Eirgrid Energy Citizens Roadshows in Dublin (SEAI, ESB Networks, Eirgrid, Public)	--	Dublin Region Energy Master Plan presentation and Q&A panel x5
	Stakeholder support and input for Local Authority Climate Action Plan Guidelines	--	Draft Local Authority Climate Action Plan Guidelines developed
	Support for Codema presence at AEE Europe Exhibition	DeliveREE	Exhibition stand

Date	Actions	Project support	Outputs
November	Decarb City Pipes project meeting in Winterthur	Decarb City Pipes 2050	Project meeting
	Kick-off meeting on SEAI Project - guide to developing district heating feasibility studies	SEAI	Kick-off meeting
	Decarb City Pipes - Dublin Local Working Group meeting (identifying solutions for barriers to the heat transition)	Decarb City Pipes 2050	Workshop
	Covenant of Mayors (CoM) feedback workshop with Dublin Local Authorities, Dublin CARO, and CoM representatives	--	Workshop
	Pricing Tool & Structure finalised for TDHS	--	Pricing tool and basis document
	Local Authority Climate Action Plan and Decarbonising Zone Planning Workshop with Dublin CARO and Dublin Local Authority Climate Teams	--	Workshop
December	Tallaght district heating network supplying heat	--	Heat supplied to customers
	Presentation on District Heat at UCD Geothermal Seminar	--	Presentation
	Meetings with DECC & SEAI on district heating pipeline for 1.6 TWh	--	Meetings and Presentations
	Development work on Energy Statements concept	--	Meetings
	Application to Interreg NWE as a project partner	--	Research and Demonstration Application

## 03. WORK PROGRAMME 2022



# MANAGEMENT SUPPORT

### EU Project Management

Codema initiates and manages projects that can access EU funding in areas that are beneficial to the Dublin Local Authorities (DLAs). These EU projects help the DLAs to stay up-to-date on the latest energy developments in Europe, test methods and technologies in Ireland that are already widely-used in other countries, and gain further knowledge and expertise on improved energy efficiency and renewable energy technologies. Management of these projects involves overseeing the delivery of activities and outputs, communication with EU partners, as well as project administration and financial management.

#### DeliveREE

In early 2021, Codema was awarded funding for the Horizon 2020 project DeliveREE. The project budget is €1.2m and has eight partners - Codema, the four Dublin Local Authorities, Philip Lee Solicitors, Resourceful Futures Ltd and Sustainable Development Capital LLP. The project will enable Codema to develop internal protocols and systems to streamline the project development and implementation process, through upskilling staff, the creation of project documentation templates and defined processes for similar project types. There is a pipeline of over €20m capital projects, ranging from solar PV, retrofitting and EV fleets. Codema is the lead partner with responsibility for the overall delivery of the project goals and also the management of both the project consortium and project budget. This will be achieved through a series of reporting, meetings and action tracking.

In 2022, two major meetings were held (one in March and the second in November) with the partners and advisory board. In May, a six-monthly performance monitoring update was submitted to the European Commission. All actions and updates were approved. In November, the first Yearly Report was submitted. This involved two parts, a technical and financial report and a performance monitoring update report from Codema and partner reports from the seven DeliveREE partners. These reports were submitted on time to the European Commission and were approved. The project will hopefully result not only in the project pipeline delivery but a continuing system of project implementation and aggregation.

#### New EU Funding Streams

Codema regularly scopes all EU funding streams in order to assess their suitability to support local projects for the DLAs. Once a suitable project is identified, Codema can then assist the DLAs in the preparation of project applications, and will submit the applications to the programme's administrators on their behalf.

In 2022, Codema continued to apply for EU funding to increase innovation and learning in the Dublin region. Codema joined as a partner in the GE2BOOST project application under the Horizon Europe funding stream. This project aimed to accelerate the retrofit of EU buildings through an Energy Guarantee model. The Horizon Europe stream is extremely competitive and unfortunately this project did not receive funding at this time. Codema has also applied to the Interreg





NWE stream through the project GRIDS2B, which has been successful in Stage 1 and will apply for Stage 2 application in 2023. This project aims to use smart tools, sensors and forecasting in order to make buildings more interactive with the electrical grid and increase the flexibility of demand.

## Local Project Management

### Sustainable Energy Communities

Codema is the regional coordinator for the Dublin and Mid-East region of SEAI's Sustainable Energy Community (SEC) programme. Codema's responsibilities focus on the coordination of the County Mentors assigned to the seven local authority areas in the region. This includes overseeing monthly reporting, tracking recruitment figures and overall programme progress, liaising with SEAI, providing mentors with training and/or ad-hoc advice regarding programme matters such as recruitment, Energy Master Plan applications and rollout, and assisting with communication activities.

Codema is also actively working to streamline the delivery of the programme in the region, and to try to address or reduce barriers that may arise during the programme's 'Learn, Plan and Do' stages for SECs. For example, to assist SECs with their Energy Master Plans (EMPs) in the 'Plan' stage, Codema set up a partnership with all seven local authorities in the Dublin and Mid-East region to enable each Council to act as the lead partner applicant on the EMP applications of their area's SECs. At the end of 2021, Codema set up a framework for EMP consultants within Dublin City Council, from which

all seven local authorities can draw consultants for their SECs' Energy Master Plans. Since January 2022, there have been 16 EMPs undertaken in the Dublin and Mid-East Region, with 10 of these being carried out via this EMP Framework. During 2022, four of the five consultants on the Framework were offered an Energy Master Plan. A total of €240,000 worth of EMP grants have been issued in the Dublin and Mid-East region in 2022. This Framework has been very well received among the local authorities, reducing administrative time, and streamlining the process for all stakeholders involved (i.e. the local authorities, SECs, SEAI and consultants).

## Energy Research, Development & Demonstration (RD&D) Projects

### RD&D Applications

Codema submitted two applications to the SEAI RD&D call in 2022. Codema led the application for one of these projects. The first project focused on developing a District Heating Deployment Roadmap and aimed at increasing the pipeline of district heating projects in Ireland through feasibility studies and engagement with stakeholders. The second 'LASER' project looked at coordinated and evidence-based energy plans. Unfortunately, these projects scored very highly but ultimately were not funded.

Codema initiated the management of the Poolbeg curtailment project, which looks at using curtailed renewable energies for increasing grid interaction with other renewable and

### 03. WORK PROGRAMME 2022

#### MANAGEMENT SUPPORT (CONTINUED)

low-carbon outputs such as district heating and hydrogen fuel generation and using the Poolbeg area as a case study. It commenced in March 2022 and project progress throughout the year included:

- Literature review of district heat, thermal storage, sector integration, hydrogen demand, and wind energy developments in an Irish and international context.
- Development of the following models in the context of Poolbeg:
  - Irish wind energy curtailment model
  - Green hydrogen production model
  - District heat and thermal storage model

#### **Development and Delivery of EPC Facilitator Training and Register of EPC Facilitators**

In February 2021, Codema was awarded the tender for the development and delivery of Energy Performance Contracting (EPC) facilitator training after a successful application under SEAI's Public Sector Framework.

These training sessions were delivered over a two-day period by Codema in September and November 2022. A total of

31 people attended the training including building energy consultants, energy agencies and public bodies. The training course consisted of seven specific training modules:

- Identifying EPC Project Opportunities
- Selling the Added Value of EPC and Presenting the Business Case to EPC Clients
- Evaluation and Managing Risk
- Project Financing and Financial Evaluation
- Legal and Contractual Requirements for EPC and Guaranteed Savings
- Procurement of EPC
- Measurement and Verification

The overall aim of the training course was to give potential facilitators a solid foundation in EPC facilitation and enable them to go out and initiate EPC projects. The course demonstrated how EPC is supported at EU level in both the Energy Performance of Buildings Directive and the Energy Service Directive and at a national level in the Climate Action Plan. EPC can play a significant role in helping to meet energy efficiency targets (such as the 'BER to B' objective) by both encouraging more holistic projects of scale and enabling private finance to invest in these projects.



## Project Funding

### European Funding in 2022

In 2022, Codema drew down funding from the following EU projects:

Funding Programme	Project	Aim	Project Timeline	Net Grant Drawdown 2022 (€)
Interreg North-West Europe	HeatNet NWE	To promote the roll-out of 4th Generation District Heating and Cooling (4DHC) across North-West Europe	September 2016 - August 2021	€100,107
Horizon 2020 / ERANet	REDAP	REDAP presents a cross-sectoral approach to regional energy systems and will help end-users to spatially visualise and better understand the characteristics of urban energy demand	Sept 2019 - August 2022	€4,783
ESPON	Q-GasSP	The main objective of this service is to produce a robust, simple and proportionate methodology that will allow competent planning authorities at national, regional and local administrative levels to quantify and forecast the influence of spatial planning policies on GHG emissions in a consistent manner	October 2020 - April 2022	€25,475
Horizon 2020	Decarb City Pipes 2050	The Decarb City Pipes 2050 project will unite cities across Europe to work out actionable, spatially differentiated transition roadmaps to decarbonise heating and cooling for buildings by 2050	September 2020 - August 2023	€18,841
Total EU Funding				€149,206

### National Funding in 2022

Funding Programme	Project	Aim	Project Timeline	Net Grant Drawdown 2022 (€)
SEAI	Sustainable Energy Communities	The Sustainable Energy Communities (SEC) initiative is a funding and support programme, which helps communities to work together to become energy-smart and more sustainable	February 2020 - January 2024	€312,967
SEAI RD&D	Dublin Region Energy Master Plan	The Dublin Region Energy Master Plan sets out how Dublin can achieve its carbon emission reduction targets to 2030 and 2050	October 2018 - October 2021	€13,716
Climate Action Fund	Tallaght District Heating Scheme	The Tallaght District Heating Scheme (TDHS) is the first large-scale district heating network of its kind in Ireland. The scheme will also operate as Ireland's first not-for-profit energy utility and will make a significant contribution to reducing carbon emissions in the local area.	March 2022 - March 2024	€71,961
Total National Funding				€398,644

### 03. WORK PROGRAMME 2022

#### MANAGEMENT SUPPORT (CONTINUED)

#### MANAGEMENT SUPPORT - KEY OUTPUTS FOR 2022



**5 APPLICATIONS FOR  
EU AND NATIONAL  
PROJECTS SUBMITTED**



**25 NEW SUSTAINABLE  
ENERGY COMMUNITIES  
JOINING THE NETWORK**



**2 DELIVEREE PROJECT  
PROGRESS REPORTS  
SUBMITTED**

#### Management Support - Actions and Outputs 2022

Date	Actions	Project Support	Outputs
January	22nd claim for SEC and report submitted	SEC	Report and grant drawn down
	EMP Framework started	SEC	EMP Consultants set up on framework and LA internal systems
February	23rd claim for SEC and report submitted	SEC	Report and grant drawn down
	EMP consultant training	SEC	Panel of consultants fully aligned on EMP Framework and process
	DCC sign MOU with SEAI	SEC	Contract signed
	4 SECs onboarded to EMP Framework	SEC	SECs supported though EMP Framework and consultants appointed
March	24th claim for SEC and report submitted	SEC	Report and grant drawn down
	RD&D Contract Signed	SEAI RD&D	Contract signed
April	25th claim for SEC and report submitted	SEC	Report and grant drawn down
	2 SECs onboarded to EMP Framework	SEC	SECs supported though EMP Framework and consultants appointed
	Biannual review conducted with Dublin & Mid-East Region mentors	SEC	Biannual mentor review completed
May	26th claim for SEC and report submitted	SEC	Report and grant drawn down
	1 SEC onboarded to EMP Framework	SEC	SEC supported though EMP Framework and consultants appointed
	1st PDA report submitted	DeliverEE	Report submitted
	2 applications to SEAI RD&D	--	2 applications submitted
	SDCC sign MOU with SEAI	SEC	Contract signed



Date	Actions	Project Support	Outputs
June	DLRCC sign MOU with SEAI	SEC	Contract signed
	MCC sign MOU with SEAI	SEC	Contract signed
	27th claim for SEC and report submitted	SEC	Report and grant drawn down
	Application Stage 1 submitted for Interreg NWE GRIDS2B project	--	Stage 1 Application
July	28th claim for SEC and report submitted	SEC	Report and grant drawn down
August	29th claim for SEC and report submitted	SEC	Report and grant drawn down
	1st RD&D Report and Claim	SEAI RD&D	Report and grant drawn down
September	30th claim for SEC and report submitted	SEC	Report and grant drawn down
	KCC sign MOU with SEAI	SEC	Contract signed
October	31st claim for SEC and report submitted	SEC	Report and grant drawn down
	Tender submitted for SEAI Lot 6 DH feasibility	--	Tender submitted
November	32nd claim for SEC and report submitted	SEC	Report and grant drawn down
	Biannual review conducted with Dublin & Mid-East Region mentors	SEC	Biannual mentor review completed
	1st yearly report and claim submitted	DeliveREE	Report and grant drawn down
December	FCC sign MOU with SEAI	SEC	FCC to begin using EMP Framework
	33rd claim for SEC and report submitted	SEC	Report and grant drawn down
	WCC sign MOU with SEAI	SEC	WCC to begin using EMP Framework
	Application for Horizon Europe 'GE2B00ST' project submitted	--	Application submitted

## 04. FINANCIAL REPORT

### Income and Expenditure Account 2022

Codema

INCOME AND EXPENDITURE ACCOUNT

For the year ended 31st December 2022

2022

€

<b>Income</b>	<b>3,035,215</b>
Expenditure	-2,729,804
<b>Surplus before Interest</b>	<b>305,411</b>
Interest receivable and similar income	0
Interest payable and similar expenses	0
<b>Loss/Profit before Tax</b>	<b>305,411</b>
Tax on surplus/(deficit)	38,176
<b>Surplus (Deficit) for the Financial Year</b>	<b>267,235</b>
<b>Total Comprehensive Income</b>	<b>267,235</b>

## Balance Sheet 2022

Codema

### BALANCE SHEET

For the year ended 31st December 2022

2022

€

<b>Fixed Assets</b>	
Tangible Assets	40,743
<b>Current Assets</b>	
Debtors	478,061
Cash and cash equivalents	458,900
	<b>936,961</b>
<b>Creditors: Amount falling due within one year</b>	<b>-344,905</b>
<b>Net Current Assets</b>	<b>592,056</b>
<b>Total Assets less Current Liabilities</b>	<b>632,799</b>
<b>Reserves</b>	
Family Leave Reserve	274,823
Income and expenditure account	297,017
<b>Equity attributable to owners of the company</b>	<b>553,840</b>

## 05. APPENDICES

### Abbreviations

4DHC	4th Generation District Heating and Cooling
AWS	Amazon Web Service
CAF	Climate Action Fund
CARO	Climate Action Regional Office
CAP	Climate Action Plan
CEM	Certified Energy Manager
CHP	Combined Heat and Power
CMVP	Certified Measurement and Verification Professional
CO <sub>2</sub>	Carbon Dioxide
CoM	Covenant of Mayors
DCAW	Dublin Climate Action Week
DCC	Dublin City Council
DCU	Dublin City University
DDHS	Dublin Docklands District Heating System
DEAP	Dwelling Energy Assessment Procedure
DEC	Display Energy Certificate
DECC	Department of the Environment, Climate and Communications
DHLGH	Department of Housing, Local Government and Heritage
DLAs	Dublin Local Authorities
DLRCC	Dún Laoghaire-Rathdown County Council
DREM	Dublin Region Energy Master Plan
DRIFT	The Dutch Research Institute for Transitions
DVA	Data Verification Assessment
DZ	Decarbonising Zone
EMP	Energy Master Plan
EPC	Energy Performance Contracting
EPO	Energy Performance Officer
ERA-Net	European Research Area Network
ESCo	Energy Service Company
EU	European Union
EUCF	European Union City Facility
EVCP	Electric Vehicle Charge Point

FCC	Fingal County Council
GGIA	Greenhouse Gas Impact Assessment
GHG	Greenhouse Gas
GIS	Geographic Information System
GPRN	Gas Point Reference Number
HESK	Home Energy Saving Kit
H2020	Horizon 2020
ICHEC	Irish Centre for High End Computing
KCC	Kildare County Council
LA	Local Authority
LED	Light Emitting Diode
M&R	Monitoring and Reporting
M&V	Measurement and Verification
MCC	Meath County Council
MOU	Memorandum of Understanding
MPRN	Meter Point Reference Number
NEAP	Non-Domestic Energy Assessment Procedure
NPV	Net Present Value
NWE	North-West Europe
PIU	Project Implementation Unit
PMP	Project Management Professional
PV	Photovoltaic
RD&D	Research, Development and Demonstration
REDAP	Regional Energy Demand Analysis Portal
SDCC	South Dublin County Council
SEAI	Sustainable Energy Authority of Ireland
SEC	Sustainable Energy Communities
SEDA	Spatial Energy Demand Analysis
SEI	Stockholm Environment Institute
SEU	Significant Energy User
TalTech	Tallinn University of Technology
TCD	Trinity College Dublin
TDHS	Tallaght District Heating Scheme
WCC	Wicklow County Council







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