

# Annual Report 2024





# Table of contents

<b>02</b>	<b>CEO foreword</b>	
<b>04</b>	<b>About Codema</b>	
	Purpose, vision, mission and values	05
	Our year in numbers	07
	Focus areas	08
	The Codema Board of Directors	10
	The Codema team	11
	Our expertise	15
<b>16</b>	<b>Work programme 2024</b>	
	Public sector obligations	16
	Energy planning, policy and research	23
	Large-scale project roll-out	33
	Best-practice engagement and dissemination	48
	Project funding and facilitation	58
<b>66</b>	<b>Financial report</b>	
	Income and expenditure account 2024	66
	Balance sheet 2024	67
<b>68</b>	<b>Appendix</b>	
	Abbreviations	68

# CEO foreword

In 2024, Ireland experienced significant disruptions due to five major storms, including power outages, travel delays and property damage. This exemplifies the tangible impacts of climate change, further emphasised by Storm Éowyn's hurricane-force winds and record-breaking wind speeds in January 2025. These events underscore the urgent need for action to mitigate the worsening frequency and severity of extreme weather events in Ireland and across the world, where there were also record-breaking temperatures, devastating wildfires and extreme flooding events.

In terms of progress on our emissions targets, there was some good news, with the Sustainable Energy Authority of Ireland's statistical unit reporting that Ireland's energy-related emissions saw a significant decrease, reaching a 30-year low in 2023. However, a recurring and critical message was that the pace of change must accelerate to achieve Ireland's legally-binding climate targets. With a new coalition Government now in place without the Green Party, the following five years are likely to present more challenges to achieving these targets.

Against this backdrop, Codema continued to lead Dublin's low-carbon transition. On behalf of the Codema Board of Directors and the Codema team, I am delighted to present our Annual Report for 2024, which provides an overview of our activities and achievements over the past year.



**We are proud of the work that we have accomplished in 2024 and we look forward to building on this success in the years to come.**

**DONNA GARTLAND**  
CEO, Codema

In November 2024, we hosted our inaugural Decarbonising Dublin Summit, which was a sell-out success. The event stood out in the annual calendar of energy-industry events as we focused on bottom-up action, hearing inspiring stories from communities and stakeholders in Dublin. We also focused the event on collaboration, inviting participants to partake in interactive sessions. I'd like to take this opportunity to thank our sponsors for supporting the event, without whom we couldn't run a not-for-profit led event of this kind. The feedback we received was extremely positive and we are planning to host an even better event in 2025, building on the learnings and outputs of the 2024 summit.

Recognising the lack of available national-level funding for innovative, bottom-up climate action in Ireland and building on our success and experience in securing funding from Europe, we concentrated on bringing in more of this funding to support climate mitigation projects in Ireland. We successfully secured seven new EU projects - bringing in over €3 million in funding, with a success rate of 67%. These projects cover areas such as direct technical and project management supports for Sustainable Energy Communities, making use of Dublin's rooftops for solar and green roof solutions, advancing district heating and supporting the roll out of Decarbonising Zones in Dublin.

In addition to our project work, we continued to engage with citizens and stakeholders on energy and climate change issues. We expanded our local engagement programmes within Decarbonising Zones (DZ) in Dublin, finalised the DZ plans in the Dublin City Council areas of Ballymun and Ringsend/Poolbeg and started work on the Clondalkin DZ on behalf of South Dublin County Council. We launched a new 'Think Energy' website, which is our dedicated online hub for citizen information on saving energy at home and at work and another 74 Home Energy Savings Kits were sent out to libraries, businesses and communities across Ireland.

The roll-out of electric vehicles received a significant boost in 2024 with the appointment of a charge point operator to install multiple destination charge points across the Dublin region. This initiative was project-managed by Codema on behalf of the Dublin Local Authorities and spearheaded by Fingal County Council.

Codema continues to be the leading agency for district heating, providing services to various public sector clients on everything from policy to contracting. In 2024, we produced the final reports for the SEAI District Heating Feasibility Study Project and the Assessment of Barriers to District Heating Deployment in Ireland for the Climate Change Advisory Council, as well as continuing research projects on thermal energy storage and biomass use in district heating systems. We continued our support on the Tallaght District Heating Scheme, planning its Phase 2 expansion and continued engagement with stakeholders on the planned Blanchardstown District Heating Scheme.

As you might have noticed from this Annual Report, Codema got a new look in 2024, with a new visual identity to reflect our new strategy. Our new website is also now fully updated and more accessible and interactive.

Our team of 35 dedicated professionals is committed to making a difference in Dublin. We are proud of the work that we have accomplished in 2024 and we look forward to building on this success in the years to come. I would like to thank our staff, our Board of Directors, our partners and our stakeholders for their hard work and support. Together, we are making a positive impact on Dublin's environment and the lives of its citizens.







# About Codema

**Codema is Dublin's Energy Agency and is committed to leading Dublin's low-carbon transition to 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 own energy efficiency, incorporating renewable energy technologies and reducing their greenhouse gas emissions, while also facilitating wider decarbonisation across the Dublin region.

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.

An additional two EPC projects are in procurement, with a further six at appraisal stage. Through our expertise in energy planning, we have developed 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 stakeholders and the wider public, such as our successful Home Energy Saving Kit scheme, extensive local engagement programmes within Decarbonising Zones in Dublin and organisation of our Decarbonising Dublin Summit, to encourage wider collaboration and action in the region.

## Our purpose

**We are driven by our vision to positively impact people's lives locally, while addressing the environmental damage caused by climate change at a global scale. We believe we can do this by improving the way we produce and use energy locally, while benefiting the people of Dublin.**



### Our 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.



### Our mission

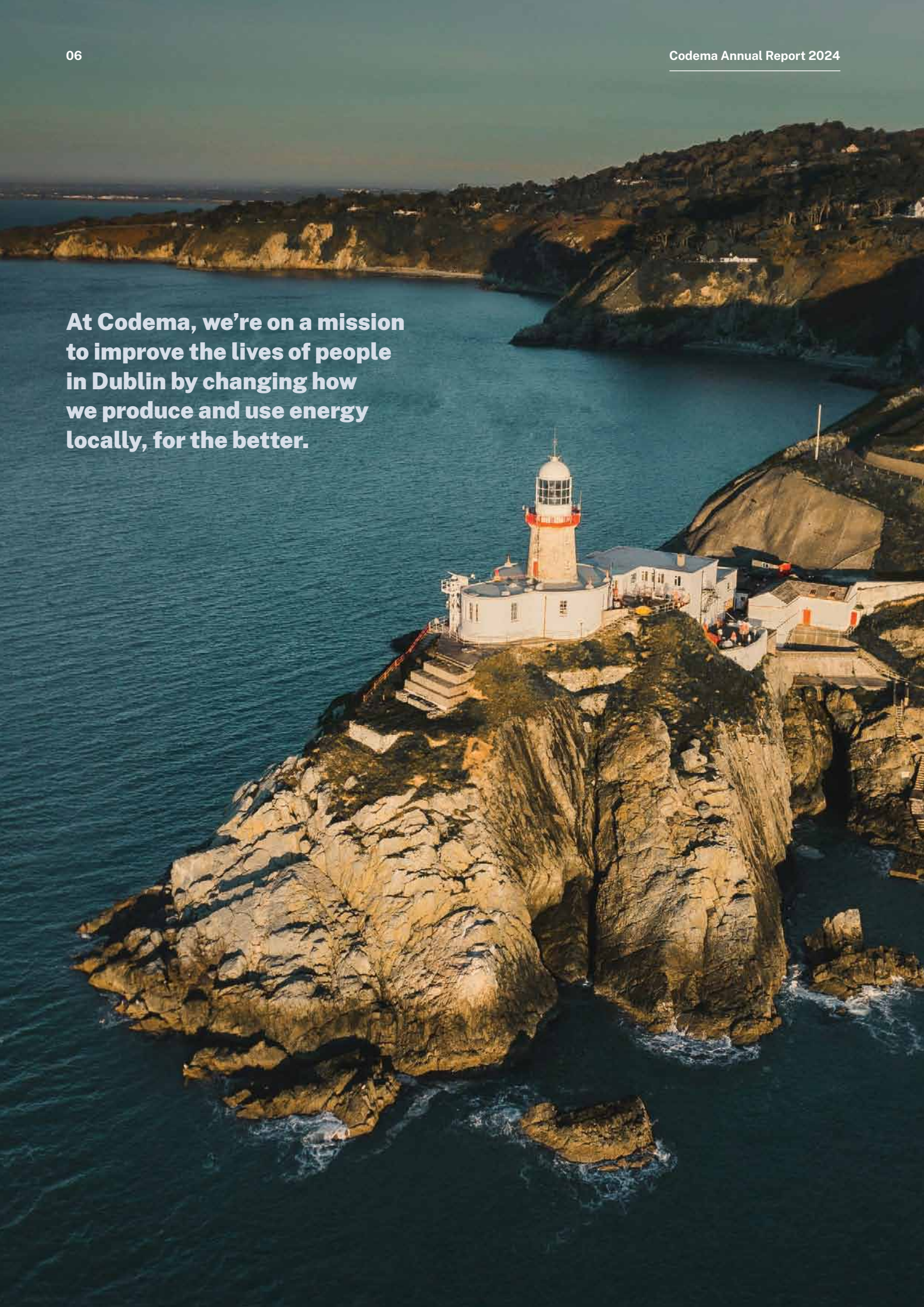
Our mission is to accelerate Dublin's low-carbon transition through innovative and inclusive local-level energy and climate change research, planning, engagement and project delivery, in order to mitigate the effects of climate change and improve the lives of citizens.

### Our values





**At Codema, we're on a mission to improve the lives of people in Dublin by changing how we produce and use energy locally, for the better.**





# Our year in numbers

## 5

areas of expertise



Public sector obligations



Energy planning, policy and research



Large-scale project roll-out



Project funding and facilitation



Best-practice engagement and dissemination

## 7

projects approved, bringing over €3M in funding to Dublin



## 130+

attendees at the first Decarbonising Dublin Summit



## 50

locations contracted for EV charging points across Dublin



## 3

national/European awards won



## 2

Decarbonising Zone plans successfully completed



## Focus areas

**At Codema, our key focus areas guide our daily work to transform Dublin's energy landscape. These focus areas fuel our commitment to drive local-level climate action, through innovative project delivery and collaboration with a wide range of stakeholders, while ensuring that solutions have not only the greatest environmental impact but benefit society and are guided by the best-available research.**



**National and EU policy**

Our work is heavily influenced by national and European climate and energy targets. We help to deliver on national goals through local, on-the-ground implementation.

**Evidence base**

All of our work is guided by a scientific evidence base. Our expert team can identify the unique characteristics of the local energy landscape and identify the best solutions to match.

**Public and stakeholder engagement**

We recognise that we need to meaningfully engage with local stakeholders and the public through best-practice and innovative public engagement techniques to make energy solutions a reality.

**Practical implementation of new concepts**

We concentrate on delivering projects in the key areas identified by our research to decarbonise Dublin, targeting areas such as heating, transport, electricity, buildings and public engagement.

**Local-level action**

Our work is guided by the needs and aspirations of the local authorities and communities that we work with. We prioritise actions in the geographical boundaries of our local authority members.

**Social impact**

We are driven not only by a desire to reduce emissions and have a positive impact on the environment, but also to improve the lives of people living locally.

**Low-carbon technologies and solutions**

We aim to close the gap in the uptake of low-carbon technologies and solutions, sharing our findings and lessons learned to promote wider use.

**Collaboration**

Key to our success is our unique relationship and partnership with local authorities who work with us, along with our network of key allies and peers across Ireland and Europe that we have built up over 28 years.



# 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 and consists of the following members:

**Frank Curran (Chair)**  
Board Chairperson and Non-Executive Director, Dún Laoghaire-Rathdown County Council  
  
Chief Executive, Dún Laoghaire-Rathdown County Council

**Donna Gartland**  
Executive Director  
Chief Executive Officer, Codema

**David Storey**  
Non-Executive Director, Fingal County Council board nominee  
  
Director of Services for Environment, Climate Action, Active Travel and Sport, Fingal County Council

**Mark Varian**  
Non-Executive Director  
Varian Legal Services Limited

**Aoife Black**  
Non-Executive Director  
Independent Consultant

**Derek Kelly**  
Non-Executive Director, Dublin City Council board nominee  
  
Executive Manager, Environment and Transportation Department, Dublin City Council

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

**Barry Gavin**  
Non-Executive Director  
Chair of Audit and Risk Committee

**Eamon Judge**  
Non-Executive Director  
Managing Director, Sustainability Hubspot

## The Codema team

Codema currently employs 35 staff who have qualifications and experience in areas such as engineering, sustainable development, sustainable infrastructure, energy planning and policy, public engagement, communications, project management and financial administration. This allows the team to deliver key services within areas such as energy management, research, development and innovation, project implementation, public and stakeholder engagement, communications, and project funding and facilitation.



# Our team members



**Donna Gartland**  
Chief Executive Officer



**Catriona Lawless**  
Chief Financial Officer



**Edel Giltenane**  
Executive Manager, HR and Administration



**Joe Hayden**  
Executive Manager, Project Implementation



**Dec McCormac**  
Executive Manager, Project Funding and Facilitation



**Suzanne Fitzpatrick**  
Executive Manager, Communications and Marketing



**Ciarán Murphy**  
Executive Manager, Research, Development and Innovation



**Conor Leahy**  
Executive Manager, Energy Management



**Katie Harrington**  
Executive Manager, Public and Stakeholder Engagement



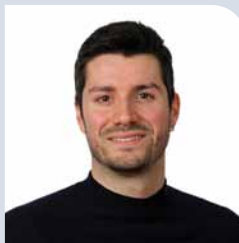
**Neil O'Leary**  
Executive Manager, District Heating



**Rebecca Cachia**  
Executive Manager, Energy Planning



**John O'Shea**  
Senior Energy Systems Analyst / Heat and Electricity Lead



**Arthur Trousseau**  
Energy System Engineer



**James Lawson**  
Energy Systems Graduate



**Rachel Mahon**  
Graduate Energy Engineer



**Eoin Ahern**  
Senior Energy Engineer / Transport and Renewables Lead



**Grainne MacNamara**  
Energy Analyst Graduate



**Emily Clarke**  
Energy Engineer



**Adam Doyle**  
Energy Engineer



**Ruari Mulvenna**  
Low-Carbon Project Engineer





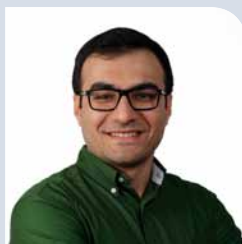
**Alexis Gurlain**  
Legal Intern



**Admir Shala**  
District Heating  
Development Manager



**Kieran Donohue**  
Energy Systems Graduate



**Alireza Etemad**  
Graduate Energy Engineer



**Martin Eeson**  
Graduate Energy Engineer



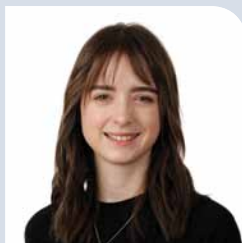
**Conor Murphy**  
Energy Engineer



**Robert Hynes**  
Energy Management Intern



**Sarah McEllistrem**  
Public Engagement and  
Stakeholder Coordinator



**Hannah Byrne**  
Communications and  
Engagement Coordinator



**Katia Tikhoniouk**  
Communications and Project  
Manager



**Eli Babei**  
Assistant Project and  
Resource Manager



**Patricia Astorgano  
Rodera**  
Low-Carbon Project  
Manager



**Anne Molloy**  
Project Manager



**Kevin Craven**  
Project Finance Manager



**Claire Donoghue**  
Office Manager



## Our expertise

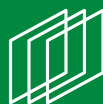
At Codema, our expert team is helping to accelerate Dublin's energy transition across a number of areas. We navigate public sector obligations, helping local authorities to excel in meeting and even exceeding their energy and climate targets. We're highly-skilled in developing and shaping energy policy and planning and carrying out first-of-its-kind research in Ireland.

We have the know-how to take innovative projects from idea stage to large-scale roll-out, and our experience in leading and coordinating EU and national funding applications ensures we have the necessary support and resources to succeed in this. Finally, when it comes to engagement and communication, we research and apply the latest, best-practice techniques across all of the work that we do.



### Public sector obligations

- Dublin Local Authorities' Climate Action Plans
- Decarbonising Zones
- Energy management and reporting
- Mid-East Energy Unit



### Energy planning, policy and research

- Energy and policy advisory services
- Energy planning
- Emissions modelling and decarbonisation pathways
- Energy modelling and master planning
- Baseline emission inventories
- Research projects supporting decarbonisation and climate action



### Large-scale project roll-out

- District heating
- Building energy efficiency and decarbonisation
  - Energy Performance Contracting
  - Renewable energy solutions
  - DeliverEE
- Roll-out of Dublin Local Authority EV Charging Strategy



### Best-practice engagement and dissemination

- Zero Together
- Local engagement in Decarbonising Zones
- Think Energy campaign
- Home Energy Saving Kit
- Promotion of local authority energy and climate change-related projects
- Event management and facilitation
- District heating stakeholder communications
- EU project communications



### Project funding and facilitation

- Financial administration and reporting
- Project proposals
- Tender development
- Local and EU project management
- National and EU funding applications
- Resource planning
- Project plan development







# Work programme 2024

## Public sector obligations

Codema works closely with all four Dublin Local Authorities (DLAs) to support them in achieving their public sector obligations, including meeting energy and greenhouse gas (GHG) emission targets, and the development of their Climate Action Plans. We support the DLAs to achieve best-in-class energy management standards through ISO 50001 certification and to develop comprehensive Climate Action Plans with a strong evidence base to meet targets and mitigate against climate change.

## Energy and climate targets

As public sector organisations, the four DLAs have energy and emission targets that need to be met. As set out in the Government's Climate Action Plan, public sector organisations must achieve:

- A 50% improvement in energy efficiency by 2030
- A 51% reduction in CO<sub>2</sub> by 2030

In addition, as part of the Sustainable Energy Authority of Ireland (SEAI)'s 2030 Monitoring and Reporting (M&R) system, the following statutory GHG emissions target must also be met:

- A 51% reduction in direct GHG emissions from transport and thermal fuels by 2030

These targets demand continued and increased focus on the energy performance of the local authorities' buildings and operations between now and 2030. Codema will continue to work with the local authorities' energy and climate teams to help them to identify and implement the best energy-saving opportunities in their organisations and develop a pathway towards achieving these targets.

## Energy management and reporting

Under S.I. 426 of 2014, the DLAs must report each year on their energy performance. In practice, this annual reporting involves compiling full data of their previous year's energy consumption. This is made up 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, business travel and transport fuels.

In 2024, 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 and emission targets.

In 2021, SEAI published an updated Gap-to-Target tool to assist local authorities in identifying the energy efficiency improvements and GHG 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 inputted 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 its Significant Energy Users (SEUs) and continue to meet public sector targets.

In 2024, Energy Reviews were completed for South Dublin County Council (SDCC), Fingal County Council (FCC) and Dún Laoghaire-Rathdown County Council (DLRCC) as part of their energy management systems.

## ISO 50001

In 2024, Codema worked regularly with the DLAs on the implementation and coordination of their energy management systems to facilitate all actions towards reaching and maintaining certification to ISO 50001 standard and meeting energy efficiency and carbon reduction targets.

Fingal County Council (FCC) completed SEAI's ISO 50001 masterclass in 2019, and received certification to the new 2018 standard in February 2020. In March 2024, FCC passed its surveillance audit.

Dublin City Council (DCC) has completed the SEAI ISO 50001 Accelerator programme, which ran until the end of 2024. This Accelerator programme is aimed at guiding the local authorities towards achieving ISO 50001 accreditation.

South Dublin County Council (SDCC) signed up to SEAI's ISO 50001 masterclass and completed the course in 2019. Similarly to DCC, SDCC also completed the ISO 50001 Accelerator programme in 2024.

Codema is currently aiding both DCC and SDCC in completing outputs from this programme and is helping the councils to progress their energy management system to a stage where they can apply for certification in 2025.

Dún Laoghaire-Rathdown County Council (DLRCC) 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 November 2024, DLRCC successfully passed its surveillance audit.



### Energy Team Meetings

In 2024, Codema helped to facilitate 24 energy team meetings across the four Dublin Local Authorities. These energy team meetings are an integral part of the structured energy management system, for which the councils have either attained ISO 50001 certification or are actively working toward certification.

As mentioned previously in this section, DLRCC and FCC currently have ISO 50001 energy management systems in place. As part of these systems, both local authorities meet regularly with their team members 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 89 public buildings in total in 2024. 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.

### Decarbonising Zones

As part of the Climate Action and Low Carbon Development (Amendment) Act 2021, local authorities across Ireland must identify and develop plans for a Decarbonising Zone (DZ) within their boundary. A DZ is considered a test bed of innovation and a demonstration site of what is possible in relation to decarbonisation and climate action at a local level. The DZ emission-reduction targets must align with the national climate targets of a 51% reduction in greenhouse gas emissions by 2030 and net-zero emissions no later than 2050.

## On an ongoing basis, Codema supports the DLAs to meet their legal and policy requirements in the development of their DZ plans.

To date, Codema has developed five DZ plans for the DLAs; these plans map and analyse the energy demand and emissions for residential and commercial (including public sector and industrial) buildings, and the transport sector across the DZ. To ensure the involvement of the local community, in 2024, Codema also supported Dublin City Council and South Dublin County Council with the local engagement process for their DZ plans; these are discussed further in the best-practice engagement and dissemination section of this report.



### Dublin Local Authorities' Climate Action Plans

In 2023, the Dublin Local Authorities prepared their Climate Action Plans for 2024-2029. These plans are aligned to the Government's overall national climate objective, which seeks to achieve a climate-neutral Ireland by 2050, as set out in the Climate Action and Low Carbon Development (Amendment) Act 2021.

Codema supported the DLAs with their Climate Action Plans and provided the evidence-base for the climate mitigation. The DLA Climate Action Plans also include a chapter on Decarbonising Zones (described earlier in this section). Codema developed the Decarbonising Zone plans that spatially map out and analyse the energy demand across these areas, along with the potential increase/decrease in emissions projected to 2030 and a gap-to-target analysis.

In 2024, Codema supported the DLAs by attending council meetings to approve the DLA Climate Action Plans.

### Mid-East Energy Unit

The Mid-East Energy Unit (MEEU) was established in January 2023 in partnership with Kildare, Meath and Wicklow County Councils, with Louth County Council also joining in 2024. Codema provides core services to the energy unit, working closely with the four local authorities to help achieve their 2030 energy efficiency and emissions reduction targets. The long-term objective remains to embed a structured energy management system within these local authorities, reinforcing their leadership in climate action.

In 2024, the primary focus was on the establishment of a €19 million framework for the decarbonisation of leisure centres and office buildings within the region. Over the summer months, the Mid-East Energy Unit successfully established its Energy Performance Contracting (EPC) framework, marking a significant step in advancing public sector decarbonisation efforts. By November, the first meeting of the EPC Single-Party Framework was held, bringing together key stakeholders to discuss implementation. In December, further progress was made as meetings took place with the successful Energy Service Companies (ESCOs) appointed to the framework, paving the way for the procurement of initial contracts to get underway in early 2025. Alongside this, the energy unit also developed plans for a second framework to decarbonise approximately 50 smaller significant buildings. Both frameworks were presented to and approved by the Steering Group in 2024, ensuring a structured and scalable approach to reducing emissions across public sector buildings in the region.

These efforts mark significant progress in supporting local authorities to meet their energy and climate targets through structured, long-term decarbonisation strategies.

Photo courtesy of Mark McGuire Photography



## Public sector obligations

### Key outputs for 2024



ISO 50001 certification retained for DLR and Fingal County Councils



ISO 50001 Energy Reviews produced for all 4 DLAs



2 x Decarbonising Zone plans finalised

### Public sector obligations - Actions and outputs 2024

Month	Actions	Project support	Outputs
January	4 DLAs' Building Stock Plans developed	–	Building Stock Plans completed for 4 DLAs
	DLRCC Energy Team meeting and Performance Monitoring Report	–	Presentations and reports on energy performance provided
	DCC Energy Oversight Committee Presentation and Performance Monitoring Report	–	Presentations and reports on energy performance provided
February	Fleet EnPI	–	Transport data improvement and new Energy Performance Indicator created
	Project development site visits for leisure centres, parks and libraries	–	SEU site visits and energy surveys
	DLRCC Energy Team meeting and Performance Monitoring Report	–	Presentations and reports on energy performance provided
	Supported DLRCC and FCC at council meetings to approve their CAPs	–	Formal approval of DLRCC and FCC Climate Action Plans
	DCC Decarbonising Zone Plans: - Ringsend and Poolbeg - Ballymun	DCC DZs	Final reports
March	DLRCC, FCC and SDCC Energy Team meetings and Performance Monitoring Reports	–	Presentations and reports on energy performance provided
	FCC Energy Review 2022	–	Energy Review report completed
	MPRN and GPRN M&R uploads to M&R system for 4 DLAs	–	M&R MPRN and GPRN requirements met for 4 DLAs
	ISO 50001 audit preparation	–	Prepared documentation for ISO 50001 surveillance audit
	ISO 50001 surveillance audit	–	Assisted FCC during surveillance audit
	SDCC and DCC - Internal and external Issues and Energy Performance Indicator documentation	–	Internal and external issues and Energy Performance Indicator documentation completed for ISO 50001

Month	Actions	Project support	Outputs
April	DCC and SDCC -ISO 50001 scope and boundary, expectations of interested parties, legal registers and measurement plans completed	–	ISO 50001 documentation completed for DCC and SDCC
	DCC Energy Team meeting and Performance Monitoring Report	–	Presentations and reports on energy performance provided
	Kick-off meeting for the Clondalkin DZ plan framework	Clondalkin DZ	Project kick off
	Baseline Emissions Inventory Methodology Report (supporting local authority Climate Action Plans)	–	Short report
May	Energy Team meetings for all 4 DLAs and Performance Monitoring Reports	–	Presentations and reports on energy performance provided
	Meath County Council Energy Review Summary 2022	–	Energy Review summary report produced
June	Fuel and activity metric uploads to M&R for 4 DLAs	–	M&R fuel requirements met for 4 DLAs
	Fleet Decarbonisation Day	–	Assisted FCC with Fleet Decarbonisation Day
	SDCC Energy Review 2022	–	Energy Review report completed
	Energy policy (ISO 50001)	–	Assisted with ISO 50001 Energy Policies for DCC and SDCC
	DLRCC Energy Team meeting and Performance Monitoring Report	–	Presentations and reports on energy performance provided
	DCC Energy Oversight Committee Presentation and Performance Monitoring Report	–	Presentations and reports on energy performance provided
July	Wicklow County Council Energy Review Summary 2022	–	Energy Review summary report produced
August	DLRCC, FCC and SDCC Energy Team meetings and Performance Monitoring Reports	–	Presentations and reports on energy performance provided
	Kildare County Council Energy Review Summary 2022	–	Energy Review summary report produced
	DEC generation	–	Display Energy Certificates generated for all 4 DLAs
	4 DLAs SEU database updates	–	SEU databases updated for all 4 DLAs
	EnPI and Energy Review workshop	–	Workshop given to all 4 DLAs and MEEU on EnPIs and Energy Reviews
	DCC Energy Oversight Committee Presentation and Performance Monitoring Report	–	Presentations and reports on energy performance provided



Month	Actions	Project support	Outputs
September	Energy Team meetings and Performance Monitoring Reports for all 4 DLAs	–	Presentations and reports on energy performance provided
	SDCC Draft Energy Review 2023	–	Energy Review report completed
	DCC Energy Oversight Committee Presentation and Performance Monitoring Report	–	Presentations and reports on energy performance provided
	DCC Draft Energy Review 2023	–	Energy Review report completed
October	FCC senior management review	–	Assisted Energy Team during senior management review
	DCC, FCC and SDCC Energy Team meetings and Performance Monitoring Reports	–	Presentations and reports on energy performance provided
	DLRCC Energy Review 2023	–	Energy Review report completed
November	4 DLAs CVD, projects, business travel and building register M&R	–	Met M&R requirements for 4 DLAs around CVD, projects, business travel and building register M&R
	DLRCC, FCC and SDCC Energy Team meetings and Performance Monitoring Reports	–	Presentations and reports on energy performance provided
	New Gap-to-Target tool	–	Created new Codema Gap-to-Target tool
	DCC and SDCC operational control templates (ISO 50001)	–	Created and distributed operational control templates for DCC and SDCC
	ISO 50001 audit preparation	–	Prepared documentation for ISO surveillance audit
	ISO 50001 surveillance audit	–	Assisted DLRCC during surveillance audit
December	FCC Energy Review 2023	–	Energy Review report completed
	DCC Energy Oversight Committee Presentation and Performance Monitoring Report	–	Presentations and reports on energy performance provided

# Energy policy, planning and research

To create a better, liveable, more energy-efficient Dublin, we need to start with how we plan the county. Each area is unique, with different characteristics and different needs – by making energy an essential factor in spatial planning processes, we can find solutions that benefit communities and make Dublin a better place to live.





Codema is Ireland's leading expert in spatial energy master-planning, demonstrating how energy considerations can be incorporated into local-level planning processes.

In addition, our skilled team provides insight and advice on climate and energy policy, highlighting the best pathways, solutions and technologies to meet our energy and climate goals.

Supporting these aims, Codema identifies and delivers research, development and demonstration projects in the areas of energy, decarbonisation and climate action, focused on the county and local levels. Codema's approach is to find examples of best practice in other European regions and seek European research funding to transfer best practice to Dublin.

### Energy and policy advisory services

Codema provides advisory services on energy and policy topics to our key stakeholders, including the Dublin Local Authorities (DLAs), in the areas of energy planning and planning applications, data centres, energy management, energy performance contracting and district heating, among other topics.

### Public consultations

In 2024, Codema made several 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 listed below:

- ESB Networks Demand Flexibility Consultation (CRU)
- Review of Large Energy Users Connection Policy (CRU)

- Consultation on the Climate Action Plan 2024 (DECC)
- Consultation on Dynamic Electricity Price Tariffs (CRU)
- Consultation on the Revised Energy Poverty Action Plan (DECC)
- Dame Street Redesign public consultation (DCC)

### Energy advisory groups and working groups

Codema participates in energy advisory groups and working groups with other experts in Ireland and internationally, maintaining and advancing our expertise in these areas.

During 2024, Codema participated in the following policy analysis and decarbonised energy spaces:

- Climate Change Advisory Council
- DECC National District Heating Steering Group
- DECC Heat and Built Environment Task Force
- ESB Networks National Networks Local Connections Advisory Group
- ESB Networks Stakeholder Innovation Panel
- EU Covenant of Mayors and Ireland Group
- Decarb City Pipes 2050 Project Steering Group
- DECC Geothermal Advisory Group
- Dublin City Geothermal Working Group
- Irish Building Stock Observatory
- SEAI Local Authority Renewable Energy Strategy (LARES) Methodology and Guidance
- Grangegorman Development Agency Energy Steering Group





## Energy planning

Codema provides technical expertise on energy planning to our key stakeholders. Our team works to develop and understand the evidence base for the current and future needs of energy and the climate transition for Dublin. The energy and emissions modelling serve as the foundation for our evidence-based energy planning work, which supports decision makers with energy planning related policy recommendations.

At a local level, local authorities have to meet a number of legal climate action obligations and targets. Energy planning aids the DLAs by providing the technical and evidence-based energy planning expertise needed to support them to take action on climate and meeting their policy requirements in areas such as:

- Preparation of county/city development plans
- Identification of Strategic Energy Zones
- Assessment of Decarbonising Zones
- Preparation of climate mitigation plans
- Supporting the roll-out of low-carbon infrastructure (district heating, electric vehicle charging, etc.)
- Carbon and energy assessment of planning applications
- Creation of EU Covenant of Mayors Sustainable Energy and Climate Action Plans

## City Edge

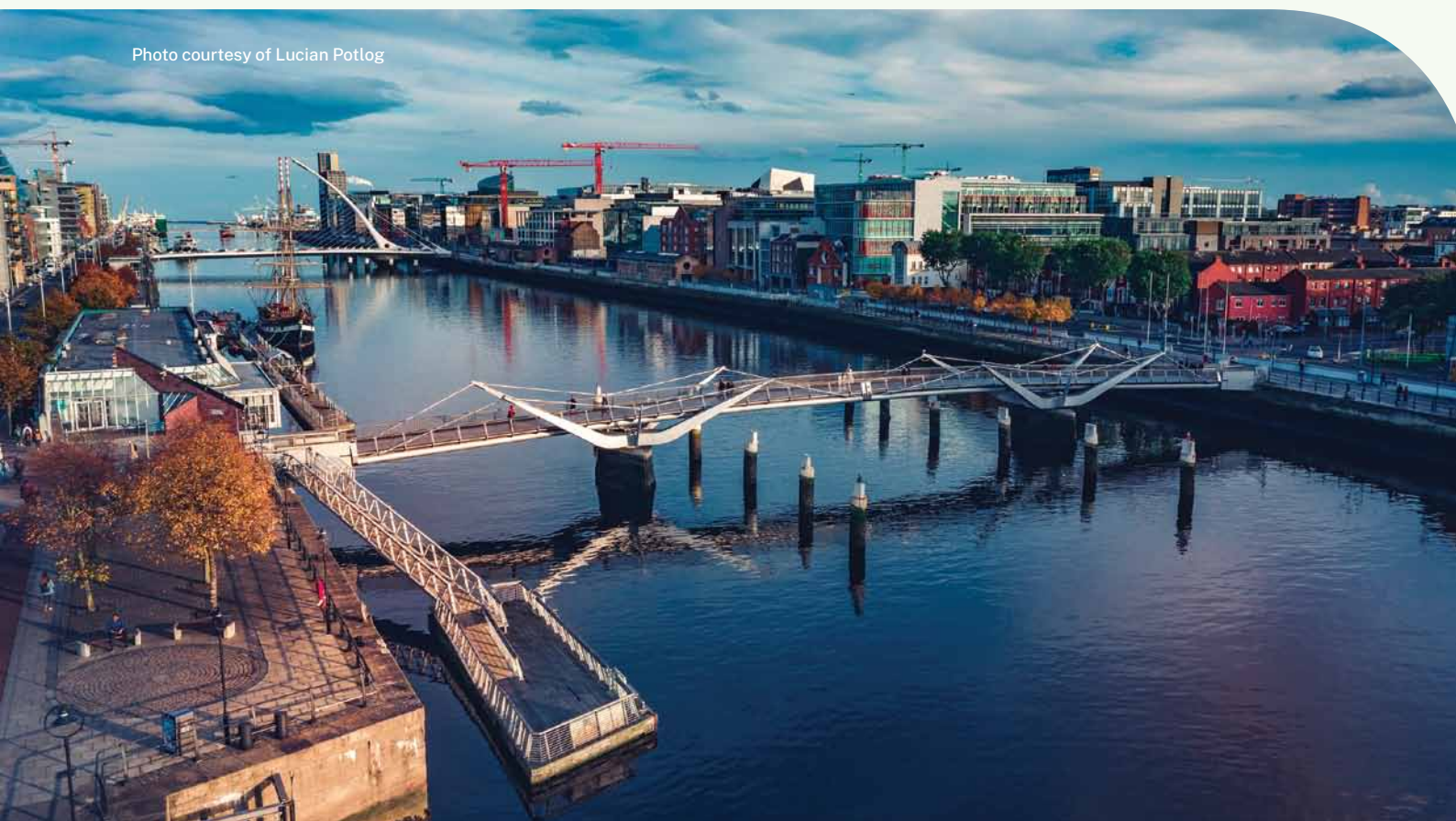
South Dublin County Council (SDCC) and Dublin City Council (DCC) have come together to work on a joint urban regeneration effort, the City Edge project. This project is in response to national strategies to regenerate Ireland's cities and large towns, while also focussing on new housing and employment in existing urban areas. City Edge is unique in Ireland and is a transformative initiative, creating a new urban quarter and reimagining the Naas Road, Ballymount and Park West areas at the west of Dublin City. This project has the potential to create 40,000 new homes and 75,000 jobs, making it one of the largest regeneration schemes in Europe.

In 2024, Codema assisted DCC and SDCC in carrying out an energy planning analysis and report to support the City Edge project and upcoming variations of their city and county development plans. Draft reports of this Sustainability Energy Management and Energy Provision Feasibility Study have been submitted for review.

The work carried out includes a review of existing climate policy as well as energy and heat demand analysis, projection of future energy and heat demand for City Edge and - using such as an evidence base - outlines principle-based zero-carbon pathways for City Edge. Most importantly, the draft report sets out a series of policy based recommendations on:

- Low-carbon heating and heat networks, including potential for district heating and waste heat sources
- Low-carbon transport
- Renewable electricity
- Building energy efficiency and embodied carbon in buildings
- Socio-economic impacts

Photo courtesy of Lucian Potlog





### TU Dublin Sustainable Energy Action Plan

In 2024, Codema prepared a Sustainable Energy Action Plan and Energy Policy Statement for Technical University Dublin. The Sustainable Energy Action Plan identifies various actions that will allow TU Dublin to reduce greenhouse gas emissions and improve operational efficiencies across the five campus locations of TU Dublin, in line with its requirements as a public sector organisation. The final Sustainable Energy Action Plan was developed by conducting detailed analysis to create an evidence base to inform the strategy and project prioritisation. This analysis included a review of the progress made to date in achieving emission reductions and implementing climate action measures, and by conducting an opportunity evaluation to identify the most suitable pathways to achieving continued emission reductions across the organisation. The final Sustainable Energy Action Plan incorporates this detailed analysis and various site-specific considerations to form a cohesive strategy and project prioritisation plan that is reflective of the requirements of TU Dublin, and the resources available to deliver this strategy and projects.

The final version of the Sustainable Energy Action Plan was submitted to TU Dublin in December 2024, which included an Energy Policy Statement for the university.

### Scope 3 Innovation Voucher

The Scope 3 Emissions Guidance Document will help to bridge the gap in standardised carbon emissions reporting for Irish organisations, specifically local authorities. With Scope 3 emissions often accounting for the majority of an entity's carbon footprint, accurately measuring and reporting these indirect emissions is essential to achieving Ireland's net-zero goals by 2050. This project, delivered by Trinity College Dublin (TCD) and supported by Codema and Enterprise Ireland, aims to develop a comprehensive and practical methodology for Scope 3 emissions reporting.

The primary beneficiaries of this work will be local authorities and Small-to-Medium Enterprises (SMEs) in Ireland, sectors that face unique challenges in emissions accounting due to resource and knowledge constraints. The results will not only enable more accurate emissions tracking but also empower organisations to take informed actions toward mitigation. The project will involve a detailed review of international best practices, an evaluation of existing tools and databases, and the development of a tailored guidance document. TCD, with collaboration and input from Codema, will carry out the project work.

### Energy modelling

Our energy modelling work provides us with key evidence and analysis on climate-friendly development pathways for Dublin. It informs the work we do in Codema across many areas -from energy planning, to project development and public engagement.

Photo courtesy of William Murphy



### The 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 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.

The DREM has been a key reference for work carried out within the Research, Development and Innovation team at Codema. Local authorities have to meet a number of legal climate action obligations and targets and in 2024, the results of this work continued to support the DLAs to meet these obligations. Notably, the DREM has supported:

- The Dublin Decarbonising Zones (5 zones in total)
- The 'Evidence-Based Climate Action' chapter in the Dublin Local Authorities' Climate Action Plans 2024-2029 (climate mitigation baselines)
- The City Edge Project for Dublin City Council and South Dublin County Council
- The roll-out of low-carbon infrastructure (district heating, EV charging, etc.)
- Carbon and energy assessment of planning applications
- Numerous public consultations
- Multiple project proposals for EU and local funding streams, with the aim of bringing in more investment in climate action to the Dublin region

To serve future needs, the DREM requires further innovation and updates. In 2024, Codema developed a new concept Dublin Region Energy Master Plan update project, with new partners in Dublin and the Dublin Local Authorities, and began the process of exploring funding avenues, to be further progressed in 2025.





## Research

### REGEN

During 2024, Codema began work on the REGEN (REGENeration of neighbourhoods towards a low-carbon, inclusive and affordable built environment) project. During this first project year, REGEN assessed the specific socio-economic, climate and built environment challenges in a local area. This work was conducted jointly with DCC and Arden Energy and focuses on the Ringsend and Poolbeg Decarbonising Zone as one of the project's demonstration sites. The characterisation of the area conducted in 2024 will pave the way for creating innovative pathways for the decarbonisation of European neighbourhoods and cities, using digital modelling approaches such as the IES 3D environment platform.

The implementation of the defined REGEN initiatives will take place across the next three years in the four demonstration sites (Dublin, Milan, Laredo and Beckerich). It will involve using the developed methodology to measure different key aspects of decarbonisation such as the energy usage, mobility and circularity of individual buildings. The project will upscale its findings to the city level, informing key policy directions and contributing to the broader transition towards sustainable urban development.

Codema, as the energy agency for DCC, is leading the REGEN demonstration site interventions, supported by council staff and the local Sustainable Energy Community, represented by founding member Arden Energy. Codema, as

the demonstration site leader, is making sure that initiatives prioritised for the Dublin demonstration site are executed following best practice, ensuring a more sustainable, low-emissions and inclusive Dublin.

### Heat NEWS

Thermal Energy Storage (TES) has underutilised potential to support decarbonisation in Ireland. In order to bridge the gap of knowledge and implementation around TES in the Irish context, research is required to explore and communicate opportunities, guide policy and demonstrate example projects.

The Heat NEWS project (supported through the SEAI national energy RD&D funding programme) aims to accelerate the deployment of thermal energy storage and support the provision of electricity grid services in Ireland using TES. The first step is to elaborate a new state-of-the-art on that topic, through the creation and engagement with a stakeholder advisory group. This will provide a comparative review and suitability analysis of relevant TES and heating technologies, a sector integration analysis of TES and how they could link with flexibility services. The Tallaght District Heating Scheme will be used as a case study to develop a business model analysis of TES opportunities with the aim to provide the most advanced possible guidelines and roadmap for the implementation of thermal storage solutions. The findings will be disseminated through targeted workshops and conference presentations to grow Ireland's capacity development in this strategic area and provide guidance to policy-makers, public bodies and electrical heat asset owners.

Photo courtesy of Stephen Shannon



### Climate Change Advisory Council - Assessment of Barriers to District Heating Deployment in Ireland

In 2024, Codema collaborated with the Swedish Environmental Research Institute (IVL) and Resourceful Futures to deliver a report on the barriers to district heating deployment in Ireland for the Climate Change Advisory Council. This report was developed to support decision makers in Ireland to take the next steps in expansion of district heating, targeting the identification of barriers that need to be overcome. This report focused on three main objectives: (1) the cost of district heating deployment, (2) the necessary policy and financial support for the roll out of district heating and (3) a review of policy implemented across different jurisdictions. The recommendations within this report draw on an analysis of how district heating has developed in different markets and the characteristics of district heating in mature, expanding and new district energy markets to inform district heating development within the Irish context. This report outlines policy pathways and important aspects to consider from an Irish policymaking perspective. Additionally, financing options for an Irish roll-out of district heating are addressed.

### Grow Green Burn Blue

The Grow Green Burn Blue project, funded through the SEAI RD&D programme and led by Dowmann Ltd, looks to explore the potential for bioenergy in Ireland to support renewable heating. The lead partners Dowmann, in collaboration with Munster Technological University, will:

- Trial a biomass production machine, to transform waste biomass sources into standardised physical outputs
- Chemically profile the biomass to help best understand its potential applications and uses

**Codema's role in the project is to assess the renewable heat potential of this biomass source for district heat networks, comparing it to other energy sources and to individual heat pumps, across different density developments.**

This project completed in 2024, finding that individual heat pumps may present a more cost-effective solution for any residential development up to a density of 25, regardless of the source, however district heating options outperform individual heat pumps in terms of costs for developments larger than this. High potential was found for combined residential and leisure centre heat demands.

### Large-scale Climate Neutral Energy Geostructures in District Heating and Cooling Systems/Networks

Codema is working with University College Cork (UCC) to provide district heating and heat planning expertise to the Large-scale Climate Neutral Energy Geostructures in District Heating and Cooling Systems/Networks (LEG-DHC) project. This is a Clean Energy Transition Partnership (CETP 2022) funded project.

Energy geostructures are novel engineering sub-structures that can be used for heat collection and storage as well as their primary function. Their use is becoming increasingly popular in delivering cost-effective, shallow geothermal energy. These structures (tunnels) may also be used to install district heating pipe networks, reducing the need for pipe trenches to be excavated. Codema is contributing our specialist knowledge on district heating and cooling networks to investigate these opportunities as part of the LEG-DHC project.

The full report will outline the role and potential of energy geostructures in district heating in Dublin, including a comparative analysis of energy geostructures with other heat sources compatible with district heating and outlining key considerations in the use of these underground tunnels for the purpose of installing district heating pipework.



# Energy planning, policy and research

## Key outputs for 2024



**Climate Change Advisory Council - Assessment of Barriers to District Heating Deployment in Ireland**



**TU Dublin Sustainable Energy Action Plan Final Report**



**Initiation of 3 x new research projects**

## Energy planning, policy and research - Actions and outputs 2024

Month	Actions	Project support	Outputs
<b>January – April</b>	Project close - Climate Change Advisory Council - Assessment of Barriers to District Heating Deployment in Ireland	Climate Change Advisory Council	Workshops, report, presentation
<b>February</b>	Delivery of Poolbeg results webinar	–	Webinar delivered to 46 attendees
	ESB Networks Demand Flexibility consultation	–	Consultation submission
	Euroheat & Power and EU Data Centre Association waste heat workshop	–	Presentation and workshop
	Presented on 'Opportunities for Sustainable Energy Integration in Dublin'	Poolbeg Sector Integration Project - SEAI RD&D	Presentation and Q&A
	Energy use and emissions baselines for Net-Zero Cities, DCC	Net-Zero Cities	Data, short report
	City Edge workshop	City Edge	Workshop
<b>March</b>	District heating lecture for DCU students	–	Presentation
	Engineers Ireland Grids of the Future Event - presentation and panel discussion on district heating and sector integration	–	Presentation
	Heat NEWS project kick off	Heat NEWS - SEAI RD&D	Project kick off
	Review of Large Energy Users Connection Policy (CRU)	–	Consultation submission
	UCD thesis and partner organisation workshop	–	Presentation on energy poverty and Q&A



Month	Actions	Project support	Outputs
April	TU Dublin Sustainable Energy Action Plan project kick off	TU Dublin Sustainable Energy Action Plan	Project kick off meeting
	Grow Green Burn Blue project kick off - waste biomass use for district heating	Grow Green Burn Blue - SEAI RD&D	Project kick off meeting
	Irish Wind Energy Research Network meeting - net-zero electricity network studies	–	Workshop
	Attended IrDEA Annual General Meeting	–	Meeting
	Consultation on the Climate Action Plan 2024	–	Consultation submission
	CRU Consultation on Dynamic Electricity Price Tariffs	–	Consultation submission
May	Consultation on the Revised Energy Poverty Action Plan	–	Consultation submission
	EU Covenant of Mayors Workshop	–	Presentation
	UCD international workshop on building energy modelling	–	Workshop
	Energy Ireland Conference: sustainable heating panel discussion	–	Chaired and participated in panel discussion
June	Smart Grid Ireland Innovation Conference	Poolbeg Sector Integration Project - SEAI RD&D	Presentation delivered
July	Meeting with SEAI and DECC - incorporating district heating into local authority strategic developments	–	Meeting, advisory
	Renewable Heat Obligation workshop hosted by DECC	–	Workshop
September	WP5 report (techno-economic analysis and policy barriers) submitted to project lead	Grow Green Burn Blue - SEAI RD&D	Report
	'Innovation Voucher' to support Scope 3 emissions evaluation research	–	Funding approval
	ManagEnergy work shadowing at EnergGap in Slovenia	–	Presentations, Q&A and support
	Presented on geothermal district heating at Grangegorman at the UHEI conference in TU Dublin	TU Dublin Sustainable Energy Action Plan	Conference presentation
October	Scope 3 emissions evaluation research project kick off	Scope 3 emissions evaluation	Project kick off
	Earth Observation webinar series, Women in Geospatial	–	Presentation and Q&A

Month	Actions	Project support	Outputs
November	Embodied carbon briefing paper	–	Briefing paper
	Facilitated optioneering workshops (prioritisation of actions) with the TU Dublin energy management team	TU Dublin Sustainable Energy Action Plan	Workshop
December	Dame Street Redesign public consultation	–	Consultation submission
	Submitted the final report, policy statement, and presentations	TU Dublin Sustainable Energy Action Plan	Report
	Heat NEWS project stakeholder workshop	Heat NEWS	Presentations, workshop hosted
	Project kick off - LEG DHC - Large-Scale Climate Neutral Energy Geostructures in District Heating and Cooling Systems	LEG DHC	Project kick off
	Dublin City Geothermal Working Group	–	Workshop
Throughout year	Irish Building Stock Observatory meetings	–	Workshops

# Large-scale project roll-out

At Codema, we specialise in the roll-out of large-scale energy projects that play a crucial role in advancing Dublin's low-carbon, sustainable future. Through close collaboration with local authorities, public sector bodies and private stakeholders, we deliver impactful solutions in renewable energy, district heating, building energy efficiency and decarbonisation.

These projects are essential in driving Dublin's progress towards its climate targets, while also enhancing the quality of life for its residents. Every initiative we lead is designed to contribute to a cleaner, more resilient capital.





## District heating

### Tallaght District Heating Scheme

Trading as Heat Works, the Tallaght District Heating Scheme (TDHS) is fully-owned and operated by South Dublin County Council as the first not-for-profit heat utility in Ireland. Heat Works was launched at the beginning of 2023 and intends to be an exemplar heat network business in Ireland, delivering economic, environmental and social benefits for all parties.

Throughout 2024, the TDHS continued to supply heat for the initial customers, along with the connection of additional buildings such as the Innovation Centre, TU Dublin's Culinary Arts and Engineering Teaching building and 133 affordable apartment units. With these connections, the first phase of the scheme was completed by December 2024.

During November and December, the heating pipes were placed along Airton Road, with the aim of extending the scheme to other buildings in the Tallaght area in subsequent phases. The TDHS currently contributes to reducing carbon emissions in the area, saving nearly 1,500 tonnes of CO<sub>2</sub> each year. With the extension of the system, it will contribute even more in the area of climate change.

As the energy agency to South Dublin County Council, Codema provides technical, policy, funding, procurement and project management assistance to the TDHS. In 2024, Codema continued to provide support for tours and technical site visits, new connection assessments, stakeholder engagement support and network modelling support, among other activities, as the project transitioned from operational to a more advanced stage.

Codema also supported SDCC in the Climate Action Fund grant drawdown process by assisting in preparing the financial documentation required for successful payment of grants. In 2023, Codema also secured SEAI Research, Development and Demonstration (RD&D) funding to use the Tallaght project as a case study for thermal storage and flexibility opportunities. This will explore the business case for the Tallaght network (and similar networks) to provide services to the electricity grid. In 2025, Codema will submit another Climate Action Fund application to support the expansion of the network beyond Phase 1. If successful, it will support the connection of new customers and increase the amount of low-carbon heat that the system can deliver to the area.

In 2024, the TDHS was also honoured with two awards, namely the SEAI Energy Award in the 'Innovative Deployment of Renewable Energy' category and the Energy Globe Award for Ireland, which is an international environmental prize awarded to sustainable projects. Heat Works is looking forward to representing Ireland at the International Awards Ceremony, held annually in Austria.

Photo courtesy of Forum



### Blanchardstown District Heating Scheme (BDHS)

In 2023, Codema submitted an Outline Business Case on the feasibility of a district heating scheme in Blanchardstown to Fingal County Council (FCC). The results of the report showed that the scheme was both technically and financially viable. The proposed scheme aims to take waste heat from a nearby data centre and deliver it to nearby buildings including the Sports Ireland Campus, Technological University of Dublin, Connolly Hospital and nearby industrial facilities. It is also anticipated that if the proposed scheme is implemented, it will expand over time and deliver low-carbon heat to nearby housing developments.

The BDHS is now being actively progressed by FCC. Codema and the National Development Finance Agency are on board to assist the council in developing the project. In April 2024, a pre-application was submitted to the ELENA (European Local Energy Assistance) facility. If successful, this European Investment Bank (EIB) funding would support project development services for the Blanchardstown District Heating Scheme and the extension of the Tallaght scheme. A request to commence work on a full application was received from the EIB in May 2024. This full application process was still in progress at the end of 2024, with a funding agreement expected to be signed in 2025. The project board has now been established, with the first meeting held in December 2024. In the same week, a stakeholder meeting was held to re-engage with the main potential customers. The BDHS project is now at the business model development stage; however, uncertainty around public sector funding and/or grant support has led to delays in bringing the project forward.

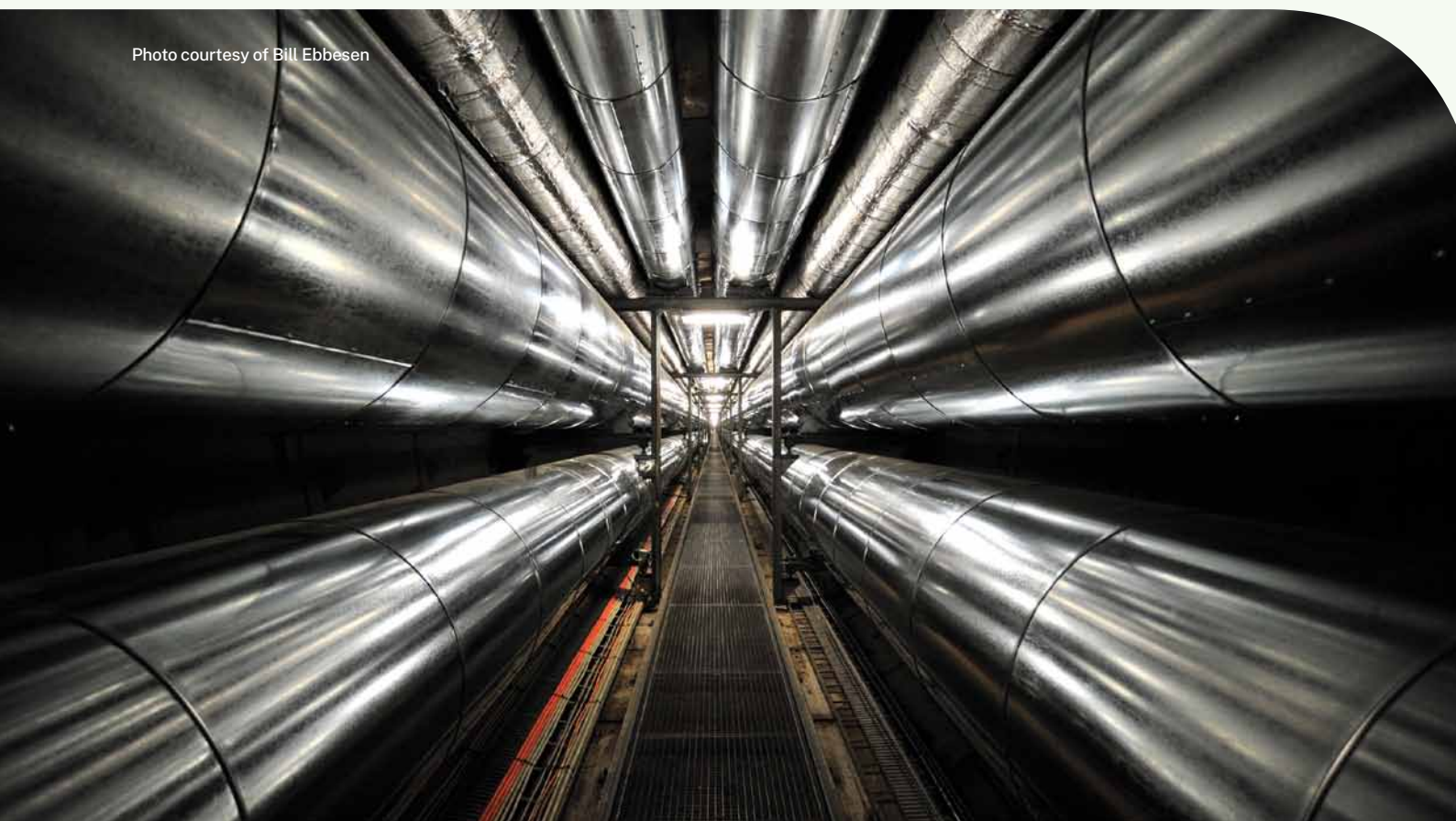
### Naas District Heating Feasibility Study

In July 2024, Codema began work on behalf of Kildare County Council (KCC) on the Naas District Heating Feasibility Study, a comprehensive analysis of the potential for developing a district heating network in Naas town. This project assesses the technical, financial and socio-economic aspects of implementing a district heating system using locally-available heat sources. It aims to establish if district heating can supply heat in the region, reduce dependency on fossil fuels and contribute to meeting national and EU climate targets.

This analysis considers key technical and economic factors in supplying several stakeholder sites in the area including Naas General Hospital, KCC offices, local retail and business parks and a nearby hotel and leisure centre. An additional scenario looking at future housing schemes west of Naas town will also be investigated. There are also three waste heat sources in the vicinity that are of interest, namely the Osberstown wastewater treatment plant and two potential data centres that are in the early stages of their development plans.

Codema will deliver the report and present the key findings to the council in early 2025.

Photo courtesy of Bill Ebbesen





### Grangegorman emissions and heat analysis

The Grangegorman Urban Quarter is undergoing substantial expansion, which can be summarised as the social and urban renewal of the 30 hectares of the former St Brendan's Hospital site and its surrounding areas, driven by the relocation of TU Dublin and the provision of modern primary and residential healthcare facilities. Grangegorman will be a new piece of Dublin City with a vibrant, sustainable community based largely around new, world-class, third-level educational facilities and other community-focused services.

Codema was appointed by the Grangegorman Development Agency (GDA) to establish viable, low-carbon heating solutions, including, but not limited to, the potential use of geothermal energy. To determine the most viable solution, the first step in this process was to develop an Energy and Emissions Baseline Report. This report establishes the baseline energy demand and emissions for the period 2016-2018, as mandated by the Climate Action Plan. It also provides projections for current and future energy and emissions.

The second step, a Decarbonised Heat Outline Business Case, involved a thorough assessment of transitioning the existing district heating network on campus to a low-carbon energy source. This included examining national and local policies, analysing business needs, benefits and risks, and assessing the suitability of the existing network. The scope also covered anticipating future heating needs, evaluating potential systems and heat sources, and assessing risks related to district heat options. A techno-economic analysis of supply options, considering factors like temperature, network sizes, plant size and CO<sub>2</sub> emissions, was conducted. Financial aspects, including costs, revenues and funding,

were scrutinised following public spending code compliance. Different procurement routes were explored, a preferred option was identified and a high-level project execution plan was outlined. Finally, a sensitivity analysis was performed to gauge the project's resilience to varying factors, ensuring a well-informed approach to project implementation.

The Energy and Emissions Baseline and Decarbonised Heat reports were delivered in January 2024 and key findings were presented to the GDA, TU Dublin, the HSE and other key stakeholders associated with the Urban Quarter. Codema also developed a Stakeholder and Communications Plan for this project, which was presented to the GDA in June 2024; this is discussed in more detail in the best-practice dissemination and engagement section of this report.

### SEAI How-to Guide for District Heating Feasibility Studies

The Sustainable Energy Authority of Ireland (SEAI) has been designated as a lead organisation for district heating development support, to underpin the national district heating targets outlined in the national Climate Action Plan. Codema supported SEAI in the development of a template and how-to guide for carrying out district heating feasibility studies. This is a key document that outlines how potential district heating schemes are evaluated for feasibility and further development. It will facilitate a wide range of organisations to assess district heating project feasibility and will support the district heating industry in Ireland to scale and move towards both project delivery and delivery on Ireland's national district heating targets, in combination with the range of other national supports that will be available. This will be a key resource for the Dublin region, as Dublin is anticipated to be a leader in district heating development in Ireland. This project delivered its final reports to SEAI in 2024.



Photo courtesy of Barrow Coakley Photography



### Galway District Heating Feasibility Study

As part of the project to develop a how-to guide for district heating feasibility studies, Codema carried out a feasibility study in 2023 for a section of Galway City, as chosen by SEAI. The Galway Feasibility Study, led by Codema in partnership with SEAI and Galway City Council, evaluated the potential for a district heating network in Galway City and the surrounding area and is used as a pilot study for the SEAI District Heating Feasibility Study Guide. The project involved analysing thermal demand and supply and assessing the viability of a heat network within the chosen area, the Westside Decarbonising Zone. Key steps included:

- Gathering heat demand data and stakeholder information
- Assessing energy demand and renewable energy supply options for the network
- Evaluating the district heating network's technical viability
- Appraising different project options and conducting economic analyses
- Exploring funding opportunities and assessing the project's financial viability
- Considering procurement and business models and the project's environmental and social impacts
- Managing risks and engaging stakeholders
- Concluding with recommendations based on the study's findings

Codema submitted the first draft of the Galway feasibility study in November 2023. The final version of the report was submitted to the SEAI in January 2024.

### Drogheda, Maynooth, Arklow and Dundalk District Heating Pre-Feasibility Reports

In December 2024, Codema developed four pre-feasibility reports for the Drogheda, Maynooth, Arklow and Dundalk areas. These reports were developed on behalf of Meath, Louth, Kildare, and Wicklow County Councils. The results of the pre-feasibility reports showed that it was worth undertaking a full feasibility analysis in each area based on a high-level assessment of linear heat density. Linear heat density is a key indicator of economic viability for district heating.

Based on these reports, Codema was successful in securing 100% SEAI funding for all four full feasibility studies, which will be undertaken in 2025.







Photo courtesy of dlr Leisure

### Building energy efficiency and decarbonisation

In 2024, Codema continued to assist the DLAs with ongoing Measurement and Verification (M&V) of four current Energy Performance Contract (EPC) projects; DLR Leisure EPC, FCC Offices EPC and DCC EPCs I and II.

#### DLR Leisure EPC

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 (NLGES) 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 1.3 GWh and emission savings of 338 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%.

Codema continued to assist DLR Leisure with the M&V process throughout 2024 and the figures as of the end of the year indicate that the project to date has achieved energy savings of 23%, equating to 3,360,977 kWh, with a value of €243,946 (31%). This project focused on the energy efficiency of the leisure centres and with the updated 2030 emission reduction targets, there will likely be additional investment in the decarbonisation of heat required within this contract. Codema is facilitating discussions to initiate decarbonisation upgrades for each of the leisure centres in the contract.

#### FCC Offices EPC

In 2022, Codema assisted FCC with the delivery of its first EPC project. This project involved FCC's headquarters at County Hall in Swords and the Civic Offices building in Blanchardstown. Works carried out included 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 emission savings of 330 tCO<sub>2</sub> per annum, which represents 32% of total energy consumption at present.

The works are now completed and in 2023 the project entered 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.

Codema is assisting FCC with the M&V process during the services period. The figures as of the end of the second reconciliation period indicate the project has achieved energy savings of 22%, equating to 1,149,790 kWh, with a value of €129,743 (28%). Similar to the DLR Leisure EPC, this project focused on energy efficiency and additional investment in decarbonisation within the contract will likely be required for these buildings for FCC to meet its 2030 targets.

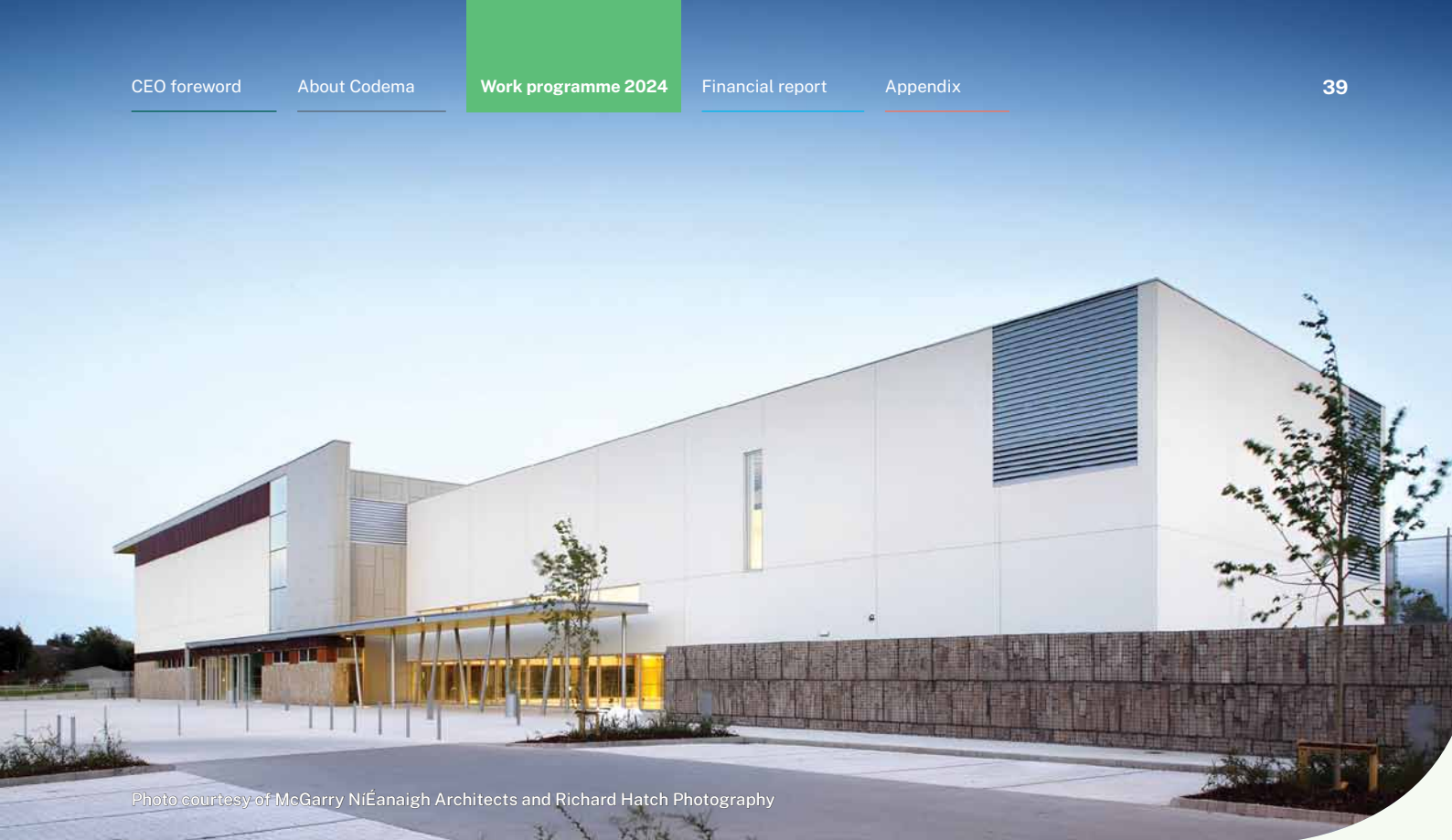


Photo courtesy of McGarry NiÉanaigh Architects and Richard Hatch Photography

### DCC EPCs I and II

The first EPC project for DCC involved a number of energy efficiency upgrades to Ballymun, Finglas and Markievicz Sports and Fitness Centres. The eight-year contract ended in December 2024 and M&V figures show that, based on the period between December 2016 and June 2024, the project achieved total energy cost savings of €1,372,051. The project has also saved 5,496 tonnes of CO<sub>2</sub> and average annual energy savings of 34%. Codema assisted DCC with managing this M&V process until the contract ended at the end of 2024. Codema is currently working with DCC to facilitate a contract extension during the development of a follow-up EPC on the same buildings, which will focus on the remaining measures to decarbonise the buildings.

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 in March that year. The latest M&V figures show that between March 2020 and August 2024, the project has achieved energy savings of 2.7 GWh, with a value of €477,170. The project has also saved 1,295 tonnes of CO<sub>2</sub> and average annual energy savings of 13%. Codema continued to assist DCC with managing this M&V process in 2024 and is facilitating discussions around further decarbonisation upgrades for these buildings, in line with 2030 targets.

### 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 three occasions in February, May and October of 2024. The course was delivered over two days and consisted of seven modules addressing:

- 1) How to identify potential EPC project opportunities
- 2) How to present EPC projects to customers
- 3) How to discuss the added value of EPC compared to in-house solutions
- 4) Procurement of EPC: Tendering and awarding of contract
- 5) The content of an EPC contract
- 6) Financing of EPC projects
- 7) Overview of measurement and verification for EPCs

In addition to the training course, Codema provided several hours of mentoring for people who had completed the EPC facilitator training course.



## DeliveREE

In early 2021, Codema was awarded funding under the Horizon 2020 Project Development Assistance call for the DeliveREE project. DeliveREE aims to create 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 will 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 and for providing a mechanism for the involvement of private capital.

The main objectives of DeliveREE are to:

- Develop a Project Implementation Unit (PIU) that will be a 'one-stop-shop' for energy efficiency and renewable energy projects in Dublin, which will move projects forward from idea stage through to contracting quickly and efficiently, and have a major impact on Dublin's building stock
- Deliver a project pipeline of energy efficiency measures across a range of buildings in the four Dublin Local Authorities

Underlying and supporting the main objectives, the other specific objectives of DeliveREE are to:

- Develop an innovative, structured assessment of projects, with standardised procedures/protocols at each step or stage-gate, for quick and efficient decision making, forming the heart of the PIU
- Bridge the viability gap caused by lack of project owner capital and attract private finance
- Aggregation of small and medium projects for scale
- Achieve large-scale energy efficiency and renewable energy projects
- Bring high-quality project offerings to the ESCo and private finance market
- Promote the PIU 'one-stop-shop' approach as the best-practice model for implementing energy efficiency and renewable energy projects and achieving national and EU GHG targets
- Disseminate results of the Dublin pilot in order to foster support of the DeliveREE approach and stimulate new projects at a local, national and EU level and support the EU's Green Deal objectives

In December 2024, DeliveREE was in month 43 of this four-year project. During this period, Codema has established a dedicated PIU team internally who are actively working on the development and testing of the PIU procedures and protocols and the implementation of projects. The first task of this team was to complete a review of all existing structures of a similar nature. Following this review, the team set about developing the first adaptation of the innovative structure for the assessment of projects, with standardised procedures/protocols. This PIU structure was then coded into an Airtable database, which is continually reviewed and updated to fit the needs of the PIU. An interface was



developed to draw on the information in the database and enable ease of use for the PIU members. The interface is also continually refined and updated, and has gone through at least five major revisions. In 2024, in response to several learnings and developments including SEAI Pathfinder funding requirements, the procedures and protocols underwent a full review and update. This resulted in the development of a matrix overview of the project development procedure, updated procedural documents and updated template documents.

One of the main outputs of DeliveREE are signed contracts for at least nine project lots. The PIU team continues to work in cooperation with the four Dublin Local Authorities to further determine the pipeline of projects necessary for them to achieve their 2030 energy and CO<sub>2</sub> reduction targets. A 'Gap-to-Target' analysis was completed to assess the current gaps to the government emission targets for each local authority and outlined the projects required to make sure these targets are met, leading to an updated investment pipeline. This resulted in some project lots or groupings being redefined and new additional project lots being added. When the original lots were compiled, the focus was more on energy efficiency but this has now shifted to decarbonisation and as a result, deeper interventions in a smaller number of key buildings. This was a result of the gap-to-target analysis and associated decarbonisation pathways developed for each local authority, which showed that full decarbonisation of a small number of key buildings was critical and that many of the smaller buildings had minimal impact in terms of achieving 2030 targets but will become more important in terms of zero emission 2050 targets.

## **The DeliveREE Project Implementation Unit is currently developing and advising on the procurement of several EPCs, which involve holistic energy upgrades for large council buildings including county halls, leisure centres, theatres and large libraries.**

In 2024, the contractor continued to develop a detailed design for the DLR EPC project. Codema oversaw this process and helped to facilitate the procurement of a technical advisor to review this design.

Codema also facilitated the procurement of the SDCC EPC, which is currently at Invitation to Participate in Competitive Dialogue stage, where tenderers produce Outline Solutions Reports, which include proposed upgrade measures for the six sites in the EPC. Codema also worked with the Mid-East Energy Unit to procure an EPC framework for the four local authorities in this region. At the end of 2024, an EPC for the Kildare Aras Chill Dara and two leisure centres (to be

procured using this framework) was at pre-procurement stage. Additionally, the PIU has been refining the pipeline of smaller buildings and is exploring the possibility of aggregating these buildings into large lots for procurement with framework agreements.

This DeliveREE project pipeline now contains three solar PV projects that the team is actively progressing with two local authorities. The first is for a 200 kW system designed to provide electricity to an onsite landfill leachate treatment facility, which has now secured planning permission and is ready to advance to procurement. The second project is for a large-scale MW system located at the same landfill but designed for export to the electricity grid.

A consultant was procured by the PIU and SDCC to complete a feasibility study report for this project, which was delivered in summer 2024. The main finding of this analysis was that the project would only be feasible if the full site potential was utilised, with an installed capacity of 26 MW. Codema also helped to facilitate the procurement of a rooftop solar PV framework for Fingal County Council. The initial project for this framework was for rooftop PV arrays on Grove Road Offices, Swords County Hall and Coolmine Depot. This project reached the tender award stage in 2024.

As the projects identified are primarily focused on deep retrofit and zero carbon, achieving a project that is financially attractive for all over a reasonable contract period can be challenging. With this in mind, the PIU and local authorities continue to engage with SEAI for capital grant funding to support the roll out of the DeliveREE project pipeline. The initial engagement with SEAI began in December 2021 and a funding agreement was signed in December 2024, for a total programme budget of €30 million over the period from 2024-2027. The local authorities will match fund SEAI's contribution, meaning the total value of the retrofit works programme is expected to be a maximum of €60 million.

Table 1 (overleaf) sets out the current project lots and their current status. Project lots at the initial appraisal stage are subject to change, while those that have advanced to procurement are unlikely to alter.

**Table 1: DeliveREE - 2024 Decarbonisation Projects**

Lot No.	Project	Status
<b>Lot 1</b>	DLRCC buildings EPC - County Hall, LexIcon, Pavilion Theatre	Detailed design
<b>Lot 2</b>	DLR Leisure EPC decarbonisation - Loughlinstown Leisure Centre, Meadowbrook Leisure Centre, Monkstown Leisure Centre	Preliminary design underway
<b>Lot 3</b>	Harbour Master's Lodge	Tender documents issued
<b>Lot 4</b>	Libraries EPC - Draíocht and Blanchardstown Library, Rush Public Library, Malahide Library, (Balbriggan Library, Ballycoolin Business Park)	Tender documents for procurement of initial audits
<b>Lot 5</b>	Solar PV - Swords County Hall, Grove Road Offices, Coolmine Depot	Tender awarded
<b>Lot 6</b>	SDCC buildings EPC - County Hall and Tallaght Library, Civic Theatre, Rua Red, Clondalkin Offices, Clondalkin Leisure Centre, Tallaght Leisure Centre	Procurement in progress - currently in competitive dialogue
<b>Lot 7</b>	Arthurstown Landfill small-scale solar PV	Tender documents prepared, planning permission received
<b>Lot 8</b>	Arthurstown Landfill large-scale solar PV	Detailed feasibility study complete
<b>Lot 9</b>	Fire stations EPC - Dolphin's Barn, Phibsborough, Tallaght, Donnybrook Road, North Strand, Swords, Blanchardstown, Finglas, Stanley Street, Malahide Road O'Brien Institute, Rathfarnham, Kilbarrack	Project appraisal, preparation for procurement underway
<b>Lot 10</b>	Swan Leisure Rathmines	Initial project development and decarbonisation audits
<b>Lot 11</b>	DCC Leisure EPC I renewal - Ballymun Sports and Fitness, Finglas Sports and Fitness, (Markievicz Sports and Fitness, Clogher Road Community Sports Centre)	Initial project development and decarbonisation audits



## Renewable energy solutions

Codema is actively working with the Dublin Local Authorities to explore the potential for both building-integrated and large-scale renewable energy projects on council-owned lands. Balleally Landfill (FCC) and Arthurstown Landfill (SDCC) are examples of sites where there may be an opportunity to develop large-scale solar PV projects.

A detailed feasibility study was conducted in 2024 to assess the options for development of a large-scale solar PV array at Arthurstown Landfill. This study identified various opportunities and limitations to be considered when progressing this project to the planning and implementation stage. The study found that the development of a large-scale solar PV project at Arthurstown Landfill is likely to be a feasible and financially-viable opportunity that would positively contribute to achieving national renewable energy targets. Due to the high costs associated with connecting to the national grid, the study recommended maximising the use of the available land and developing a project of up to 26 MW installed capacity.

Similarly, Balleally Landfill represents an opportunity to develop a solar PV project on a site that has limited alternative land-use options. Balleally Landfill was redeveloped in 2018 and is now a public green area renamed as Rogerstown Park. Codema and FCC are exploring the opportunities to develop a solar PV project at this park. Careful consideration is being given to ensure that any potential renewable energy project at this site does not negatively impact the function of Rogerstown Park as a local amenity and that the ecologically-sensitive nature of the surroundings are taken into account.

In parallel with the exploration of large-scale solar PV opportunities at landfill sites, Codema is also supporting Fingal County Council in advancing smaller-scale, building-integrated renewable energy projects. As part of this effort, the council has reached the tender-award stage for a rooftop solar PV framework contract. The initial phase of this framework will see installations at key council buildings, including Swords County Hall, Blanchardstown Civic Offices and Coolmine Depot, further demonstrating the council's commitment to integrating renewable energy solutions across a variety of sites and scales.

## EasyPro

In 2024, Codema began its role as a partner in the EasyPro project, an initiative funded by the European Union under the LIFE Programme, which supports climate and environmental action. The project officially launched with a kick-off meeting in July 2024 and will run until June 2027. EasyPro focuses on supporting Irish universities in reducing their carbon emissions through Energy Performance Contracting (EPC), a model that enables institutions to implement energy upgrades with guaranteed savings and minimal financial risk. Four universities - University College Cork, Technological University Dublin, Maynooth University and Dublin City University - are participating in the pilot phase to demonstrate the potential of EPC in the higher education sector.

By the end of 2024, Codema had advanced the work on Work Package 4 – Tendering, which aims to establish a robust framework for procuring Energy Service Companies (ESCOs) capable of delivering measurable carbon and energy reductions. Preparations are underway for the competitive dialogue process, which will be central to appointing suitable contractors for the pilot sites. The EasyPro project is expected to support up to €45.3 million in investment in renewable energy and energy efficiency initiatives. Codema's contribution draws on its experience from projects like DeliverREE and supports the broader goal of creating a scalable and effective pathway to decarbonisation across Ireland's public sector.

## Roll-out of Dublin Local Authority EV Charging Strategy

In 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 2024, the procurement of a charge point operator for the design, build and operation of fast/rapid destination charge points across the four DLA areas was concluded. A two-year, single-party framework agreement has been signed with ePower with an option to extend for a further four years. The initial project consists of 50 locations across the four DLAs, with up to four charging points in each location. ePower will operate these sites under a concession agreement for a 10-year period.

An Amalgamated Business Case was prepared by Codema and submitted to Zero Emission Vehicles Ireland (ZEVl) in December 2024, requesting capital funding for the enabling infrastructure on this project, including ESB grid connections and associated civil and electrical works. Grid connection applications for the majority of the 50 sites were made in 2024 and it is expected that the first sites will go live by the middle of 2025.

## Large-scale project roll-out

### Key outputs for 2024



**Appointment of Charge Point Operator for DLA Destination EV Charging Framework**



**Completion of feasibility study for large-scale solar PV project at Arthurstown Landfill**



**Project board established for Blanchardstown District Heating Scheme**

### Large-scale project roll-out - Actions and outputs 2024

Month	Actions	Project support	Outputs
January	Application prepared for Energy Globe Award for Tallaght District Heating Scheme	–	Award application submitted
	District Heating Cost Guide developed	SEAI District Heating Feasibility Studies project	Cost Guide for District Heating Feasibility Studies
January – October	Facilitated the tender process for the DLA Destination Charging	–	Contractor appointed for delivery of the first 50 sites for destination charging across the four DLAs
January – December	Facilitated Project Development Agreement for DLRCC EPC	DeliveREE	Detailed design for energy upgrades at DLRCC County Hall, Lexicon library and Pavilion Theatre
February	EPC facilitator training	SEAI	Delivered a 2-day EPC facilitation training course at SEAI
	Irish District Heating Roadmap to 2030 workshop	–	Contribution to workshop
	Building audits	DeliveREE	Appraisal reports for two leisure centres (K Leisure)
	Building audits	DeliveREE	Energy audit report for SDCC community centre
	Data Centre Planning Guidance and Waste Heat Assessment - Kildare County Council	Naas District Heating Feasibility Project	Workshop
	Presentation to GDA - results of decarbonisation of heat options analysis	GDA Energy and Emissions Analysis Project	Presentation
	Naas District Heating Feasibility Study Project kick off	Naas District Heating Project	Kick off meeting

Month	Actions	Project support	Outputs
March	Building audits	DeliveREE	Solar PV assessment reports for two SDCC community centres
	DeliveREE Periodic Report	DeliveREE	Completed periodic technical and financial report for the DeliveREE project
March – December	Facilitated tender process for SDCC EPC	DeliveREE	Published Invitation to Participate in Competitive Dialogue and completed competitive dialogue interviews
April	Final Report to GDA -Decarbonised Heat Outline Business Case	GDA Energy and Emissions Analysis Project	Final report
	Building audits	DeliveREE	Decarbonisation assessment reports for four DCC leisure centres
	DeliveREE small building framework development	DeliveREE	Developed procurement strategy and documentation for multi-building single party framework for small buildings
	DeliveREE partner meeting	DeliveREE	Hosted DeliveREE 6-monthly partner meeting
May	EPC facilitator training	SEAI	Delivered a 2-day EPC facilitation training course at SEAI
May – December	Facilitated tender process for FCC solar PV project	DeliveREE	Published and evaluated Prequalification Questionnaire. Published and evaluated Invitation to Tender
June	Tour of TDHS for Microsoft team and discuss planned Naas data centre waste heat viability	Naas District Heating Feasibility Study	Tour and advisory
	Clonburris and Grange Castle District Heating -Pre-Feasibility Report	Clonburris and Grange Castle District Heating	Short report
June – August	Mid-East Energy Unit EPC framework established	DeliveREE	EPC Framework for the Mid-East Energy Unit
July	Final version of SEAI feasibility study guides and reports completed	SEAI District Heating Feasibility Study Project	Reports
	EasyPro kick off meeting	EasyPro	Kick off meeting and presentation on Codema
	Presentation to Blackpool City Council on Codema's role in the TDHS project and data centre waste heat	Heat Works	Presentation
	Providing support to Heat Works on CAF drawdown reporting requirements	Heat Works	Calculation methodology for reporting



Month	Actions	Project support	Outputs
August	Drogheda District Heating Pre-Feasibility Analysis	Drogheda District Heating	Short report
	Report Finalised - Galway District Heating Feasibility Study	SEAI District Heating Feasibility Study Project	Report
September	DLA Destination EV Charging Framework agreement signed with charge point operator	–	Signed framework agreement for design, installation and operation of public destination EV charge points
October	DeliveREE -Pathfinder matrix developed	DeliveREE	Revised DeliveREE protocols and procedures to incorporate Pathfinder requirements
	DeliveREE online platform redeveloped and launched	DeliveREE	Redeveloped DeliveREE online platform live
	EPC facilitator training	SEAI	Delivered a 2-day EPC facilitation training course at SEAI
	Building audits	DeliveREE	Decarbonisation Assessment Reports for 10 DCC fire stations
	Attended the launch of the EV Infrastructure Roll-Out Programme	–	Public launch of programme
October – December	Attended weekly meeting with the appointed charge point operator and the DLAs to discuss delivery of destination EV chargers across the DLAs	–	Minutes of weekly meetings
November	DeliveREE workshop	DeliveREE	Organised and hosted the second DeliveREE workshop “Introduction to Energy Performance Contracts for public sector decision-makers”; this in-person workshop was attended by 32 people
	Mid-East EPC Single Party Framework ESCo Meeting	DeliveREE	Single Party Framework EPC discussed with both ESCos and the Mid-East Energy Unit
	EasyPro workshop	EasyPro	Hosted in-person workshop to discuss WPs, refine partner roles, identify any gaps in the process
	DLA Destination EV Charging Amalgamated Business Case	–	Amalgamated Business Case report outlining funding requirements for DLA destination EV charging project submitted to ZEVI
	Fundamentals of District Heating 1-Day Course	Engineers Ireland	Delivered training course on behalf of Engineers Ireland
	TDHS featured on Futureville Ireland programme on RTÉ as part of Science Week	–	TV interview
	Presented on geothermal district heating at Grangegorman at the National Geothermal Summit	–	Conference presentation (~200 attendees)

Month	Actions	Project support	Outputs
December	Blanchardstown District Heating Scheme project board established	–	First BDHS project board meeting held
	Blanchardstown District Heating Scheme stakeholder meeting	–	Stakeholder meeting held with potential BDHS customers
	Project Execution Plan	DeliveREE	Preliminary Project Execution Plan for 10 DCC Fire Stations
	Maynooth District Heating Pre-Feasibility Study	Maynooth District Heating Project	Short report
	Arklow District Heating Pre-Feasibility Study	Arklow District Heating Project	Short report
	Maynooth District Heating Feasibility Study project kick off	Maynooth District Heating Feasibility Study	Project kick off
	Arklow District Heating Feasibility Study project kick off	Arklow District Heating Feasibility Study	Project kick off
	Dundalk District Heating Feasibility Study project kick off	Dundalk District Heating Feasibility Study	Project kick off
	Drogheda District Heating Feasibility Study project kick off	Drogheda District Heating Feasibility Study	Project kick off
	FCC solar PV	DeliveREE	Tender awarded for FCC rooftop solar PV project



## Best-practice engagement and dissemination

At Codema, we recognise that the barriers around climate action are often not technical but instead relate to the social, organisational, institutional and cultural challenges that need to be fully understood, in order to make solutions a reality. We understand that we need to meaningfully engage with local stakeholders and the public and actively involve them in how we move Dublin away from fossil fuels. We do this through best-practice and innovative public engagement and communication techniques, ensuring that the process is transparent, fair and inclusive and that the most marginalised communities can have their voices heard.



## Local engagement in Decarbonising Zones

At the start of 2024, Codema's engagement and RDI teams delivered two Decarbonising Zone (DZ) plans for Dublin City Council's Ballymun and Ringsend / Poolbeg DZs. These DZ plans marked the end of an engagement process that was central to ensuring that the aspirations and needs of the community were captured within the SMART actions of the plan by including locally-based climate solutions.

In April 2024, Codema's engagement team began working with South Dublin County Council to support them in carrying out a similar best-practice engagement process with the community in the Clondalkin DZ. Building on experience gained from engaging the communities in DCC's DZs and customising the engagement approach to best fit the Clondalkin community, the team carried out a best-practice local engagement plan to ensure the key issues and needs of the Clondalkin community would be captured in the finalised DZ plan. The engagement process of the Clondalkin DZ continued into April of 2025.

### Community outreach, engagement and communication: Clondalkin DZ Community Climate Action Survey

To begin the engagement process, extensive stakeholder mapping was carried out in the Clondalkin DZ area to ensure a comprehensive understanding of the diverse community within the larger DZ area. Preliminary desk-based research was conducted to gain an understanding of the stakeholders present in the area. Given the larger population of the Clondalkin DZ area, Codema launched the Clondalkin community climate action survey. The primary aim of this survey was to 1) understand the community's attitude towards climate action, 2) garner their future vision for the Clondalkin DZ and 3) gauge respondents' interest in participating in the engagement process moving forward. A total of 244 community members responded to the survey and 60 of those respondents indicated that they would like to take part in future DZ workshops. By engaging in a wider community recruitment process for the DZ workshops from the outset, it was possible to engage a broad range of individuals, including those who might not typically participate in community climate action groups. This best-practice inclusive approach resulted in a diverse repository of participants who are eager to participate in and contribute to the development of the Clondalkin DZ plan.

To ensure that the survey was reflective of the Clondalkin DZ community, members of Codema's engagement team conducted digital, on-the-ground and on-street engagement with community members. This involved 1) calling and visiting schools, contacting community groups and businesses, 2) attending community events, 3) speaking with individuals in shops, cafés and on the street and 4) engaging with people during library information sessions.

### Community "Visioning Workshops"

To create a collective and widely representative community vision, Codema hosted six community workshops with six separate community groups. Two of these groups were formed from survey respondents who had expressed a desire to participate further in the process. To facilitate maximum attendance at the workshops, Codema verified the preferred days, times and delivery modes with the group. Based on this feedback, it was decided to host one workshop online and one in person on the group's preferred day, ensuring optimal participation. A total of 12 attendees participated in each of the workshops. A further four visioning workshops were hosted with community groups, including Clondalkin Tidy Towns, the North Clondalkin Community Safety Forum, Scoil Áine and Rowlagh Community Centre staff. A total of 69 community members attended and engaged during these four workshops.

These workshops led to the creation of a vision and a mission statement for the Clondalkin DZ, which was a requirement of the DZ plan according to the Local Authority Climate Action Plan Guidelines. These statements, which were harvested from the community climate action survey, the wider community and the discussions conducted during the six visioning workshops, will act to guide and direct the DZ throughout the project in selecting actions and objectives that will help to achieve their vision. The workshops also served to recruit committed community members for the next phase of the engagement process, which involved the formation of a DZ consultation group that participated in two additional workshops. During these sessions, community members participated in activities to identify SMART actions to achieve the future vision for their local area and collaborated on developing a governance structure for the group's future operations during the implementation of the DZ plan.



Photo courtesy of Ben Ryan

## Zero Together

In 2024, Codema's Public and Stakeholder Engagement team continued to explore opportunities to develop the Zero Together initiative. The aim of this initiative is to create and deliver on a shared vision and roadmap 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 across all sectors 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 and has now been integrated into Codema's strategy for 2023-2026.

### Zero Together: Collaboration

In 2024, collaboration was at the heart of our work on Zero Together. We held conversations with over 15 organisations to share the vision of Zero Together and learn more about the work being done in the energy transition and public engagement space. We attended at least eight conferences, workshops or networking events, exploring opportunities to build on our growing network of contacts. This included hosting a network event for the All-Island Better Democracy Network and facilitating workshops on public engagement in the energy transition with the policy team at Friends of the Earth Ireland.

## Zero Together into the future

In early 2024, it was decided that a brand strategy was needed to determine Zero Together's future direction. Through this process, we explored a purpose and vision for the Zero Together brand, identified a set of core values to guide our work and analysed different target audiences that could be reached with the Zero Together message. As part of this work, audience personas were created using the EPA's Climate Change in the Irish Mind research and different audience groups were considered, including community volunteers, professionals in energy-related roles and business owners. This exercise allowed us to consider the variety of potential directions Zero Together could take into the future.

Following the brand strategy process and a SWOT analysis, it was determined that a key differentiating factor for the original iteration of Zero Together was its evidence base, informed by the Dublin Region Energy Master Plan published by Codema in 2021. It was decided that the main focus for Zero Together in 2025 would be to secure funding to update this evidence base and incorporate the Zero Together initiative into the approach for the next iteration of the master plan.

## Think Energy

### Home Energy Saving Kit

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

## The Home Energy Saving Kit scheme expanded even further in 2024, with an additional 74 kits developed and distributed to libraries, communities and other organisations across Ireland.

Many of these were added to the public libraries network, meaning that the public could access extra kits from these library branches during the crucial winter months of 2024.

A suite of support materials was also provided for libraries and other organisations who received a kit during 2024. These included tailored handbooks for each group type, promotional posters and copies of Codema's "100 Ways to Save Energy at Home" guidebook.

As in previous years, three lively and informative training sessions were provided for kit managers to equip and empower them with the right knowledge about the Home Energy Saving Kit. These training sessions were very positively received and resulted in lively question and answer sessions at the end of each webinar.

### New Think Energy.ie website

In April 2024, we proudly introduced the new ThinkEnergy.ie website, an innovative platform dedicated to enhancing energy awareness and efficiency throughout Ireland. In addition to being the online information hub for the Home Energy Saving Kit, the new website offers accessible tips and resources to help individuals and communities take control of their energy use.

Key features of the website include:

- **Home Energy Saving Kit:** A detailed information section on the Home Energy Saving Kit, the tools that are included, how they help you save energy and where you can borrow a kit from your local library.
- **Comprehensive guides:** Users can access a range of engaging information and resources on the website, including the "100 Ways to Save Energy at Home" guidebook, which offers practical tips categorised by cost and area of energy use, enabling users to implement effective energy-saving measures tailored to their needs.

- **Educational resources and services:** ThinkEnergy.ie provides a variety of resources such as video tutorials, manuals and workbooks. Additionally, the platform offers information on how to access Codema's energy awareness services like kit demonstrations, employee engagement sessions, community events and webinars to support energy-saving initiatives across different sectors.

### Energy awareness events and activities

Building on the success of previous years, we continued to provide a range of energy awareness events and services on behalf of the local authorities and communities across Dublin, as well as to private organisations such as Saint Gobain. The team participated in a variety of in-person events, engaging with individuals, community groups and local authorities to promote energy efficiency and climate action.

Key energy awareness events in 2024 included:

- Lucan Library – 6th March
- Palmerstown Library – 11th April
- Speaking slot at Self Build Live – 19th May
- Speaking slots at Bord Bia Bloom – 30th and 31st May
- Bloomin' Crumlin – 25th June
- Launch of Dublin Climate Action Week (DCAW) at the Mansion House – 9th September
- DCAW FCC Energy Event, Swords Pavilions – 10th September
- DCAW DLRCC Energy Event, Lexlcon – 11th September
- DCAW SDCC Climate Fest, Clondalkin – 14th September
- SDCC Libraries HQ, Tallaght – Think Energy Event – 27th November



Photo courtesy of Ben Ryan





## District heating communication

### Decarbonised heat for Grangegorman Development Agency

In 2024, Codema developed a Stakeholder and Communications Plan for decarbonised heat for the Grangegorman Development Agency (GDA), looking at how effective communications among key stakeholders can help support the transition of the current district heating system on the GDA site from gas to geothermal energy. The plan provides recommendations for clear, consistent communication with key stakeholders, including TU Dublin, the HSE, Educate Together and Dublin City Council, helping to align expectations and mitigate risks.

The plan outlines engagement strategies, key messaging and communication channels that could be used among key stakeholders, supporting a phased approach: a shallow bore geothermal system for near-term targets and a deep bore system for long-term sustainability. It also highlights the replicability of the project as a model for future geothermal district heating in Ireland.

Recommendations for 2025 onwards include a roles and responsibilities matrix for the project team, setting key performance indicators and developing public-facing materials to enhance awareness and support.

## Event management and facilitation

### Decarbonising Dublin Summit

On the 14th of November 2024, Codema hosted the inaugural Decarbonising Dublin Summit, bringing together policymakers, industry leaders and communities to explore pathways for reducing emissions and advancing sustainable energy solutions in Dublin. The event was a great success with over 130 attendees, fostering insightful discussions on topics such as district heating, transport, energy efficiency and urban planning, with a strong emphasis on community engagement and systemic change.

The summit featured interactive audience exercises, including a "Postcards from Dublin 2050" visioning activity, where attendees imagined a future Dublin shaped by clean energy, green infrastructure and sustainable mobility. Key takeaways highlighted the need for scaling up climate action, breaking sectoral silos and integrating social and environmental goals into decarbonisation efforts.

Attendees left inspired to take tangible actions, from supporting district heating initiatives to fostering deeper community participation in climate planning. The success of this event reinforces Codema's leadership in shaping Dublin's energy transition and fostering a collaborative approach to climate action and we look forward to planning the summit once again in 2025.



## EU project communications

### DeliveREE

The DeliveREE EU project aims to create 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.

As part of the DeliveREE project, Codema hosted an in-person workshop in November 2024, *Introducing Energy Performance Contracts for public sector decision-makers*, attended by 32 people from a variety of organisations, councils and government departments.

The workshop helped attendees to understand how an Energy Performance Contracting (EPC) project works, why it can play a crucial role in building decarbonisation and the benefits of EPC in helping organisations achieve energy and sustainability goals while managing costs across a range of buildings. The workshop also covered the role of finance in EPC projects and its impact on building upgrades.

## Best-practice engagement and dissemination

### Key outputs for 2024



**Best-practice local engagement in the Clondalkin Decarbonising Zone**



**74 Home Energy Saving Kits developed**



**1st Decarbonising Dublin Summit held**

### Best-practice engagement and dissemination - Actions and outputs 2024

Month	Actions	Project support	Outputs
January	In-person promotion of the Ballymun Final Community Event	DCC DZ	12 staff members of IKEA spoken to while attending a pop-up information stand in their breakroom
	Ringsend / Poolbeg Final Community Event	DCC DZ	24 community members in attendance
	Ballymun Final Community Event	DCC DZ	26 community members in attendance
	Ballymun YouthReach Workshop	DCC DZ	11 students from the Ballymun YouthReach CDETB attended a visioning workshop to help further develop the community vision for the Ballymun DZ
	Application prepared for Energy Globe Award for Tallaght District Heating Scheme	–	Award application submitted
	Think Energy - school detectives pilot	–	Energy audit workbook designed for pilot scheme in Gaelscoil Bharra, Cabra
	Invited to join Bohemians FC Spark Cooperative	–	Codema join Spark steering committee
February	Delivered the finalised Ringsend / Poolbeg DZ plan to Dublin City Council	DCC DZ	Full report produced, which included the Ringsend / Poolbeg DZ's community vision and mission, community prioritised actions and KPIs
	Delivered the finalised Ballymun DZ plan to Dublin City Council	DCC DZ	Full report produced, which included the Ballymun DZ's community vision and mission, community prioritised actions and KPIs
	Supported RDI team with promotion of Poolbeg results webinar	–	Webinar delivered to 46 attendees
	SDCC staff energy event	–	HESK information and engagement stand included at SDCC staff energy day at County Hall
	Award application prepared for TDHS for EU Sustainable Energy Week Awards	–	Award application submitted



Month	Actions	Project support	Outputs
March	Published the Ringsend / Poolbeg DZ Plan Summary	DCC DZ	Plain English summary of the Ringsend / Poolbeg DZ plan created and shared with 40 members of the community
	Published the Ballymun DZ Plan Summary	DCC DZ	Plain English summary of the Ballymun DZ plan created and shared with 70 members of the community
	Think Energy HESK workshop	–	20+ attendees at HESK workshop and Q&A at Lucan Library
	HESK presentation for Cork FEEL study visit	–	30 min remote presentation and Q&A provided
April	Launch of the new Think Energy website	–	Dedicated Think Energy website launched to showcase the HESK and other public-facing energy saving resources
	HESK workshop	–	HESK lunchtime workshop and Q&A at Palmerstown Library
May	Clondalkin Community Climate Action Survey designed and launched	SDCC DZ	244 responses received from Clondalkin community members and over 160 people engaged through promotion of the survey
	Meeting with SDCC and local councillors to discuss and promote the Clondalkin DZ and community survey	SDCC DZ	8 local councillors engaged and informed on the Clondalkin DZ
	Promotion of HESK at Self Build Live	–	Live HESK presentation and Q&A at the Advice Theatre of Self Build Live expo event
	Venues shortlisted and sponsorship proposals issued for Decarbonising Dublin Summit	–	Venue confirmed and sponsorship secured
	Think Energy day	–	Energy saving presentation delivered across 8 sessions to approximately 250 employees of Saint Gobain Ireland
June	Award application developed for TDHS for SEAI Energy Awards	–	Award application submitted on behalf of SDCC / Heat Works in Innovative Deployment of Renewable Energy category
	Think Energy at Bloom	–	Two HESK presentations given on the Sustainable Living stage at Bord Bia Bloom
	Developed a Stakeholder and Communications Plan for the GDA's Geothermal District Heating project	GDA Decarbonised Heat	Stakeholder and Communications Plan for Decarbonised Heat submitted to the GDA
July	Workshop hosted on public engagement in the energy transition with Friends of the Earth Ireland	–	Identified examples of good public engagement and areas for improvement and further opportunities for collaboration
	Meeting with wider SDCC staff to discuss and promote the Clondalkin DZ	SDCC DZ	11 SDCC staff from different departments engaged during an online meeting presenting the purpose and planned work for the Clondalkin DZ
	Meeting with SDCC and newly-elected councillors to discuss and promote the Clondalkin DZ	SDCC DZ	6 newly-elected local councillors informed and engaged on Clondalkin DZ
	Application submitted for Zero Together for Facilitation Impact Award	–	Zero Together nominated for award

Month	Actions	Project support	Outputs
August	Hosted the All-Ireland Better Democracy Network	–	Six network members attended the morning co-working session, with nine members attending the network meeting and 10 people attending a workshop on DIY citizens' assemblies
September	Application submitted to Women in STEM Awards	–	Codema shortlisted for STEM Employer of the Year Award
	Updating of Dublin Climate Action Week website	–	Dublin Climate Action Week website updated in coordination with the 4 DLAs and the Dublin CARO
	Think Energy stand at DCAW launch	–	Think Energy / HESK stand at the launch event for Dublin Climate Action Week in the Round Room at the Mansion House.
	2 x public tours of the Tallaght District Heating Scheme, as part of Dublin Climate Action Week	–	2 x tours sold out, increased awareness and engagement of the scheme among 35 attendees
	Youth Conference designed and facilitated in Ballyroan Library to support Dublin Climate Action Week	–	35 students engaged in a visioning exercise and energy/climate related activities
	Youth Conference designed and facilitated in Tallaght Library to support Dublin Climate Action Week	–	Approx. 40 students engaged in a visioning exercise and energy/climate related activities
	Youth Conference designed and facilitated in North Clondalkin Library to support Dublin Climate Action Week and SDCC's Decarbonising Zone engagement	–	Approx. 50 students engaged in a visioning exercise and energy/climate related activities
	Hosted a stand at SDCC's ClimateFest in Clondalkin as part of Dublin Climate Action Week	–	Approx 150 attendees and 40 people engaged in Think Energy and the Clondalkin DZ
	Energy awareness event for FCC during DCAW	–	Pop up Energy Clinic in Swords Pavilions Shopping Centre, with over 40 members of the public engaged
	Energy awareness event for DLRCC during DCAW	–	Custom presentation on tackling damp and mould at DLRCC energy event at Lexlcon
October	Facilitated a visioning workshop with Clondalkin Tidy Towns to support SDCC's DZ engagement	SDCC DZ	8 attendees engaged
	Facilitated an online visioning workshop for members of the Clondalkin community to support SDCC's DZ engagement	SDCC DZ	12 attendees engaged
	Facilitated a workshop for members of the Clondalkin community in Áras Chrónáin to support SDCC's DZ engagement	SDCC DZ	10 attendees engaged
	Attended Rowlagh Community Centre to engage local community members in SDCC's DZ	SDCC DZ	17 community members engaged
	Analysis of the Clondalkin Community Climate Action Survey	SDCC DZ	Clondalkin Decarbonising Zone Survey Results Report
	Development and launch of a new website and branding for Codema	–	New Codema website and branding launched

Month	Actions	Project support	Outputs
<b>October</b>	Phase 6 HESKs completed and delivered	–	Phase 6 HESKS delivered to 20 clients across the public library, local authority and private business sectors
<b>November</b>	TDHS awarded Energy Globe Award	–	Notification of award success, with presentation scheduled for early 2025
	TDHS awarded SEAI Energy Award	–	Award presented in Innovative Deployment of Renewable Energy category
	Zero Together presented with Facilitation Impact Award	–	Zero Together awarded 2024 Silver Facilitation Impact Award
	Organised Decarbonising Dublin Summit	–	Decarbonising Dublin Summit event held, with approx 130 attendees
	Facilitated workshop in Scoil Áine to engage teachers and students in SDCC's Clondalkin DZ	SDCC DZ	19 teachers and 20 students engaged
	Facilitated a workshop for members of the North Clondalkin Community Safety Forum to support SDCC's DZ engagement	SDCC DZ	8 attendees engaged
	Facilitated engagement activities in North Clondalkin	SDCC DZ	23 adults engaged. 19 primary school students. 16 secondary school students
	Completed an EU funding application for research on public engagement in the energy transition	–	Funding application submitted by lead partner DCU
	HESK workshop	–	Energy awareness workshop in Dolphin's Barn Library as part of Science Week
	HESK workshop	–	HESK / energy awareness workshop at County Library, Tallaght
	Think Energy / HESK pop-up energy clinic	–	Drop in lunchtime energy clinic held at Blanchardstown Library for FCC
<b>December</b>	Facilitated a workshop for the staff of Rowlagh Community Centre	SDCC DZ	9 staff engaged
	Facilitated second workshop on public engagement in the energy transition with Friends of the Earth Ireland	–	Explored barriers to implementation in the energy transition and identified key actors and priority areas for 2025
	Delivered 3 x HESK training webinars	–	3 x Zoom training sessions delivered to HESK clients
	Think Energy training delivered to Siemens Ireland	–	Energy awareness training for approx. 25 Siemens Ireland staff





## Project funding and facilitation

One of our key areas of expertise in Codema is the development, management and reporting of EU and nationally-funded projects. We have over 28 years' experience leading and participating in projects from various European and Irish funding streams across a diverse range of energy and climate related topics.

We are experts in project idea development and application writing, and we have experience participating in and leading established consortiums. All our projects aim to support our overall strategy and enable us to undertake research, develop low-carbon solutions, advise on emerging climate policy and ensure value for money for our local authority partners.

## National and EU project management

Developing and managing EU and nationally-funded projects is a specialised area that involves specific knowledge of the relevant funding streams, programme rules and allowable expenditure, and the reporting of finance and deliverables. At present, Codema is lead partner on two large EU-funded projects, DeliveREE and GEMINI. We are also a partner on eight other EU projects. Leading a project involves managing all stakeholders - the funding body, the partnership and wider stakeholders. It also involves interpreting the work programme, mitigating risks, developing solutions that are acceptable to both partners and the funder and to ensure that the project is delivered as per the grant agreement and has the positive impacts envisioned. It also requires the lead partner to manage all the partners' financial claims and to pay them in a prompt manner. As a partner on a project we need to manage our own financial claims, responsibilities in the project and make sure the project aligns with Codema's strategy.

## Management of EU-funded projects

### 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 2024, two project partner meetings were held in April and in November. In addition, two separate reports were submitted to the European Commission. The first report was submitted in March and it was a periodic report relating to technical and financial aspects, covering the period from October 2022 to January 2024. The second report was submitted in December and was a six-monthly performance monitoring updates report.

### REGEN

In August 2023, the European Commission approved the Horizon Europe project REGEN (REGENeration of neighbourhoods towards a low-carbon, inclusive and affordable built environment), in which Codema has a relevant role as coordinator of the Dublin pilot. The project, which runs for four years, officially began in January 2024 with a kick-off meeting involving all 23 partner organisations in Luxembourg.

Regarding the project objectives, REGEN brings together a multi-level and committed consortium of entities across Europe to pave innovative pathways for the decarbonisation of European neighbourhoods and cities, addressing urgent socio-economic, climate and built environment challenges

## Developing and managing EU and nationally-funded projects is a specialised area that involves specific knowledge of the relevant funding streams, programme rules and allowable expenditure and the reporting of finance and deliverables.

by designing a multifunctional toolbox, leveraging cutting-edge digital technologies and life-cycle sustainability assessments, while engaging citizens and influencing behavioural change. REGEN will implement its solutions in four demonstration sites (Dublin, Milan, Laredo and Beckerich), continuously monitoring the energy, mobility and circularity of individual buildings, streets and districts.

The Dublin demonstration site is located in the Poolbeg and Ringsend area, which is also designated as a Decarbonising Zone (DZ) within Dublin City Council. Within the pilot, the local partnership, which is composed of Codema (as project coordinator), Dublin City Council and the Ringsend Sustainable Energy Community, represented by founding member Arden Energy, will test different energy and urban regeneration solutions closely engaging with the local community and stakeholders.

In October 2024, the second consortium meeting was hosted in Dublin by Codema, Dublin City Council and Arden Energy. Over 40 partners from more than 10 countries took part in the two-day meeting, which took place in City Hall with the institutional welcome of the Lord Mayor of Dublin and representatives from the Dublin partners. In addition, several activities were carried out, such as a visit to the Dublin Waste-to-Energy facility, a Ringsend Decarbonising Zone tour and a workshop in the Fair Play Café with the RISEC Energy Community members.





Photo courtesy of Harrison Photography and Media

### GEMINI

In May 2024, €20 million of funding was approved under the Peace Plus programme for the GEMINI (Geothermal Energy Momentum on the Island of Ireland) project. Codema is the lead partner for the project, which aims to drive geothermal energy adoption across Ireland. The project runs from September 2024 to September 2028 with 15 partners across the island of Ireland, including the Geological Survey of Ireland, Geological Survey of Northern Ireland, the Northern Ireland Housing Executive, Northern Ireland Water and TU Dublin.

The project includes five demonstration sites that will highlight diverse applications of geothermal technology on the island of Ireland. The GEMINI project will install three shallow (less than 500 metres) geothermal energy systems in Sligo Regional Sports Centre, the Northern Ireland Housing Executive Centre of Excellence, Belfast and Northern Ireland Water, Belfast. A deep (greater than 500 metres) geothermal system will be developed at the Technological University Dublin campus at Grangegorman, with additional investigations for geothermal resources in the Antrim area. The learnings from the project and data from demonstration sites will be used to develop a range of resources that will support the growth of a geothermal energy sector in Ireland, including technical guidance, cost models, planning tools, procurement guidelines and business models.

The development of joint education, skills and training frameworks will ensure that accreditation of businesses and installers, drillers, etc., is recognised across the island of Ireland, creating the necessary supply of technical expertise.

In November 2024, GEMINI was officially launched on the TU Dublin Grangegorman campus with inputs from the Minister for the Environment, Climate and Communications, Eamon Ryan TD and the Northern Ireland Economy Minister, Conor Murphy. The first partner meeting also took place in November 2024 with representatives from all 15 project partners.

### EasyPro

The EasyPro project began in 2024 and is funded under the LIFE Programme stream. It aims to develop a tailored Energy Performance Contracting (EPC) facilitation service and procurement framework to reduce the costs and complexities associated with energy-efficient building renovations. The overarching goal is to encourage public bodies to undertake these renovations through the EPC model. Codema is contributing as an expert partner, supporting the development of EPC contracts with public bodies.

### IVL / CCAC

In 2024, Codema collaborated with the Swedish Environmental Research Institute (IVL) and Resourceful Futures in successfully applying for a tender to deliver a report on the barriers to district heating deployment in Ireland for the Climate Change Advisory Council. This report has been delivered to the council.



## Management of nationally-funded projects

### Heat NEWS

The Heat NEWS project (funded through the SEAI RD&D programme) aims to accelerate the deployment of thermal energy storage and support the provision of electricity grid services in Ireland using thermal energy storage. Codema is the lead partner of the project; the project has now been extended and will finish in May 2025.

### Grow Green Burn Blue

The Grow Green Burn Blue project, in which Codema is a partner, is funded through the SEAI RD&D programme and is led by Dowmann Ltd. It looks to explore the potential for bioenergy in Ireland to support renewable heating. Codema's role in the project is to assess the renewable heat potential of this biomass source for district heat networks, comparing it to other energy sources and to individual heat pumps, across different density developments. Codema has delivered its findings and the project closed out in 2024.

### Sustainable Energy Communities

Up until September 2024, Codema continued its work as the regional coordinator for the Dublin and Mid-East region of SEAI's Sustainable Energy Community (SEC) programme. Codema's responsibilities focused on the coordination of the county mentors assigned to the seven local authority areas in the region. This included 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 roll-out, and assisting with communication activities.

Codema also worked actively to streamline the delivery of the programme in the region and to try to address or reduce barriers arising from 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. 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). Since January 2024, there have been six EMPs undertaken in the Dublin and Mid-East region, with one of these being carried out via this EMP framework.

From January until September 2024, 26 new communities across the region joined the SEC programme.

## New national and EU funding applications

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.

### EU funding applications

In 2024, Codema demonstrated strong engagement in EU project development by taking part in 14 EU project applications, achieving approval for seven projects while four remain under evaluation, with a success rate of more than 60%. In collaboration with DLAs and other key stakeholders, Codema has successfully secured over €3 million in EU funding across various programmes, including Horizon Europe, Interreg NWE, Interreg Europe, LIFE Clean Energy Transition, the European Urban Initiative and ELENA Grants.

The overarching goal of these proposals is to drive innovation in low-carbon technologies, business models and participatory governance approaches to accelerate the energy transition. Key project topics include:

- Enhancing energy efficiency in urban areas by empowering local energy communities to implement integrated energy-efficient measures.
- Assessing the feasibility of utilising seawater as a heat source for a district heating system.
- Evaluating the potential of rooftop space in Dublin through digital twin technology for the implementation of renewable energy or nature-based solutions.
- Developing an investment programme for the large-scale deployment of two district heating systems in Dublin, utilising waste heat from data centres.
- Expanding district heating and cooling networks to connect residential consumers, supported by an extensive citizen and stakeholder engagement campaign.
- Assisting local and regional public authorities in applying the Energy Efficiency First principle across relevant policy areas to support climate targets.
- Support energy communities in leading their own energy projects by providing technical, legal and financial help.

### National funding applications

Codema was involved in three applications to the SEAI Research, Development and Demonstration (RD&D) call in 2024. Codema led the application for one of these projects. The first project focused on investigating the potential to update our current energy masterplan for Dublin which we would lead, the second was a national energy masterplan, led by UCD and the third was district heating focused. Unfortunately, none of these were successful.

## Project funding

### European funding in 2024

In 2024, Codema drew down funding from the following EU projects:

Funding Programme	Project	Aim	Project Timeline	Net Grant Drawdown 2024(€)
Horizon Europe	REGEN	Innovative pathways for the decarbonisation of European neighbourhoods and cities, tackling urgent socio-economic, climate and built environment challenges by designing a multifunctional toolbox	January 2024 – January 2028	€78,699
Horizon Europe	EasyPro	Helping public bodies become energy efficient and carbon neutral through Energy Performance Contracting	July 2024 – August 2027	€18,254
Horizon 2020	DeliveREE	To test and develop a one-stop-shop project implementation unit for energy efficient and renewable energy projects in Dublin	June 2021 – June 2025	€212,405
PEACEPLUS	GEMINI	Creating momentum for the geothermal energy sector on the island of Ireland	September 2024 – September 2029	€62,751
Total EU Funding				€372,109

### National funding in 2024

In 2024, Codema drew down funding from the following national projects:

Funding Programme	Project	Aim	Project Timeline	Net Grant Drawdown 2024(€)
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 – May 2024	€58,108
SEAI RD&D	Heat NEWS	Accelerate the deployment of thermal energy storage and support the provision of electricity grid services in Ireland	January 2024 – May 2025	€65,234
SEAI RD&D	Grow Green Burn Blue	Creating biofuels from park waste	January 2023 - August 2024	€3,192
Total National Funding				€126,534

# Project funding and facilitation

## Key outputs for 2024



14 project proposals submitted to EU funding programmes



7 x EU projects approved for funding



2 x DeliverEE project progress reports submitted

## Project funding and facilitation - Actions and outputs 2024

Month	Actions	Project support	Outputs
January	SEC claim and invoice submitted for activity in December 2023	SEC	Report and grant drawn down
	REGEN Horizon Europe project kick-off meeting	REGEN	Codema staff attended project kick-off meeting in Luxembourg with 22 other partners from across the EU
February	SEC claim and invoice submitted for activity in January 2024	SEC	Report and grant drawn down
March	SEC claim and invoice submitted for activity in February 2024	SEC	Report and grant drawn down
	Submitted the periodic report for the Horizon 2020 DeliverEE project	DeliverEE	Compiled and submitted both the technical and financial periodic reports, which were then approved by the European Commission
	Development of ENCORES project Stage 1 application	–	ENCORES Stage 1 Interreg NWE application submitted
	Development of E2-CUTIES project Stage 1 application	–	E2-CUTIES Stage 1 Interreg NWE application submitted
	Development of MULTIROOFS project Stage 1 application	–	MULTIROOFS Stage 1 Interreg NWE application submitted
	Development of RODEO project Stage 1 application	–	RODEO Stage 1 Interreg NWE application submitted
April	SEC claim and invoice submitted for activity in March 2024	SEC	Report and grant drawn down
	Development of Blanchardstown and Tallaght District Heating ELENA grant pre-application	–	Submission of ELENA grant pre-application for Blanchardstown and Tallaght schemes
	Development of GRILDINGS application	–	Submission of Horizon Europe GRILDINGS project proposal
	DeliverEE project partner meeting	DeliverEE	Coordinated and hosted DeliverEE 6-monthly partner meeting
May	SEC claim and invoice submitted for activity in April 2024	SEC	Report and grant drawn down



Month	Actions	Project support	Outputs
June	SEC claim and invoice submitted for activity in May 2024	SEC	Report and grant drawn down
	Development of DISCO application	–	Submission of Interreg Europe DISCO project proposal
	Development of REEF application	–	Submission of Interreg Europe REEF project proposal
	Development of SEAI RD&D WARMTH application	–	Submission of WARMTH project proposal
	Development of SEAI RD&D SPARC-DREM 2.0 application	–	Submission of SPARC-DREM 2.0 project proposal
	Development of SEAI RD&D D3TWIN project application	–	Submission of D3TWIN project proposal
July	SEC claim and invoice submitted for activity in June 2024	SEC	Report and grant drawn down
August	SEC claim and invoice submitted for activity in July 2024	SEC	Report and grant drawn down
September	SEC claim and invoice submitted for activity in August 2024	SEC	Report and grant drawn down
	Development of LIFE SCALEFIT project application	–	Submission of SCALEFIT project proposal
	Development of RODEO project Stage 2 application	–	Submission of RODEO Stage 2 Interreg NWE application submitted
	Development of MULTIROOFS project Stage 2 application	–	Submission of MULTIROOFS Stage 2 Interreg NWE application
	Development of E2-CUTIES project stage 2 application	–	Submission of E2-CUTIES Stage 2 Interreg NWE application
	Development of CLR3 tender	–	Submission of CLR3 tender
	Handover and closing out Codema's involvement in the SEC programme	SEC	Handover of the SEC programme data and information to KSN Energy, the new SEC regional coordinator in the Dublin and Mid-East area
October	Development of project proposal - Feasibility of Aquathermal District Heating for Dún Laoghaire	–	Submission of EU project application on behalf of DLRCC
	REGEN Dublin consortium meeting	REGEN	Organisation and hosting of the second REGEN consortium meeting in Dublin with more than 40 participants and welcome by Lord Mayor
November	GEMINI launch	GEMINI	Launch of GEMINI project in TU Dublin Grangegorman campus
	GEMINI partner meeting	GEMINI	1st GEMINI partner meeting, hosted 14 partners from Ireland and Northern Ireland
	DeliveREE project partner meeting	DeliveREE	Coordinated and hosted DeliveREE 6-monthly partner meeting
	Development of ERAS project application	–	Submission of ERAS project proposal

Month	Actions	Project support	Outputs
December	DeliveREE progress report	DeliveREE	Compiled and submitted the 6-monthly Performance Monitoring Updates report
	Approval of RODEO Interreg NWE project	–	Project funding secured for Codema and South Dublin City Council for the TDHS extension
	Approval of MULTIROOFS Interreg NWE project	–	Project funding secured for Codema and DLAs as associate partners
	Approval of E2-CUTIES Interreg NWE project	–	Project funding secured for Codema, Fingal County Council and Balbriggan SEC
	Approval of DISCO Interreg Europe projects	–	Project funding secured for Codema to work on policy improvements with Kildare County Council
	Approval of REEF Interreg Europe projects	–	Project funding secured for Codema to work on policy improvements with South Dublin City Council
	Development of RE-ALLocate project application	–	Application with Fingal County Council in development stage
	Development of SHIELD project application	–	Application at development stage

# Financial report

## Income and expenditure account 2024

Codema	
INCOME AND EXPENDITURE ACCOUNT	2024
For the year ended 31st December 2024	€
Income	2,429,737
Cost of Sales	-215,208
Gross surplus	2,214,529
Administrative expenses	-2,268,198
Operating (deficit) / surplus	-53,669
Tax on (deficit) / surplus	-397
(Deficit) / Surplus for the financial year	-54,066
Total comprehensive (deficit) / surplus for the financial year	-54,066



## Balance sheet 2024

Codema

### BALANCE SHEET

For the year ended 31st December 2024

2024

€

<b>Fixed Assets</b>	
Tangible Assets	32,360
<b>Current Assets</b>	
Debtors	1,840,133
Cash and cash equivalents	664,613
	2,504,746
<b>Creditors: Amount falling due within one year</b>	<b>-1,825,643</b>
Net Current Assets	679,103
<b>Total Assets less Current Liabilities</b>	<b>711,463</b>
Other provisions	-26,510
<b>Total Net Assets</b>	<b>684,953</b>
<b>Capital and reserves</b>	
Family leave reserve	381,611
Income and expenditure account	303,342
<b>Members' funds</b>	<b>684,953</b>

# Appendix

## Abbreviations

BDHS	Blanchardstown District Heating Scheme
CAP	Climate Action Plan
CARO	Climate Action Regional Office
CDETB	City of Dublin Education Training Board
CEM	Certified Energy Manager
CETP	Clean Energy Transition Partnership
CHP	Combined Heat and Power
CMVP	Certified Measurement and Verification Professional
CO <sub>2</sub>	Carbon Dioxide
CRU	Commission for Regulation of Utilities
DCAW	Dublin Climate Action Week
DCC	Dublin City Council
DDHS	Dublin District Heating System
DEC	Display Energy Certificate
DECC	Department of the Environment, Climate and Communications
DLAs	Dublin Local Authorities
DLRCC	Dún Laoghaire-Rathdown County Council
DREM	Dublin Region Energy Master Plan
DZ	Decarbonising Zone
EIB	European Investment Bank
ELENA	European Local Energy Assistance
EMP	Energy Master Plan
EnPI	Energy Performance Indicator
EPC	Energy Performance Contracting
ESCo	Energy Service Company
EU	European Union
EUI	European Urban Initiative
EV	Electric Vehicle
EVCP	Electric Vehicle Charge Point
FCC	Fingal County Council
FEEL	Frugal cities through Energy Efficiency and Low-tech communities
GEMINI	Geothermal Energy Momentum on the Island of Ireland

GDA	Grangegorman Development Agency
GHG	Greenhouse Gas
GPRN	Gas Point Reference Number
HESK	Home Energy Saving Kit
IrDEA	Irish District Energy Association
IVL	Swedish Environmental Research Institute
KCC	Kildare County Council
LARES	Local Authority Renewable Energy Strategy
LEG-DHC	Large-Scale Climate Neutral Energy Geostuctures in District Heating and Cooling Systems/Network
M&R	Monitoring and Reporting
M&V	Measurement and Verification
MEEU	Mid-East Energy Unit
MPRN	Meter Point Reference Number
NLGES	Noel Lawler Green Energy Solutions
NWE	North West Europe
PIU	Project Implementation Unit
PMP	Project Management Professional
PV	Photovoltaic
RD&D	Research, Development and Demonstration
RDI	Research, Development and Innovation
REGEN	REGENeration of Neighbourhoods towards a Low-Carbon, Inclusive and Affordable Built Environment
SDCC	South Dublin County Council
SEAI	Sustainable Energy Authority of Ireland
SEC	Sustainable Energy Communities
SEU	Significant Energy User
SME	Small-to-Medium Enterprise
SWOT	Strengths, Weaknesses, Opportunities and Threats
TCD	Trinity College Dublin
TDHS	Tallaght District Heating Scheme
TES	Thermal Energy Storage
UCC	University College Cork







Floor 2,  
The Grainstore at The Digital Hub,  
Roe Lane,  
The Liberties,  
Dublin D08 KC81

+353 (0)1 707 9818  
[codema@codema.ie](mailto:codema@codema.ie)  
[www.codema.ie](http://www.codema.ie)



Printed on 100% recycled paper



Comhairle Cathrach  
Bhaile Átha Cliath  
Dublin City Council



Comhairle Contae  
Fhine Gall  
Fingal County  
Council



SDCC  
Comhairle Contae  
Átha Cliath Theas  
South Dublin  
County Council