

DeliveREE: A Proven Decarbonisation Model

Project summary report



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101032833

What is DeliveREE?

Through DeliveREE, Codema developed and tested a new approach to accelerate building decarbonisation using a new delivery model with guaranteed energy performance built into contracts.

Project results

€21 million

of awarded contracts, comprising of building energy upgrades across five local authorities in Ireland



€25 million

of projects expected in the next wave of delivery



2,797 tCO₂

per annum, approximately, in verified projected emissions reductions



3,964 tCO₂

Additional projected emissions reductions per annum expected in the next phase



Key takeaway

DeliveREE demonstrates that **accelerating building decarbonisation is achievable** when projects are structured clearly, risks are allocated appropriately and delivery pathways are simplified.



Key benefits of the DeliveREE approach



Accelerated decarbonisation

Using public sector buildings as case studies, DeliveREE shows that carbon reduction can progress rapidly when delivery systems are well-structured.



Capacity-building

A dedicated Project Implementation Unit enables building owners to move from ad hoc projects to a continuous decarbonisation pipeline.



Market development

Strengthens supplier engagement, skills growth and investment through structured procurement and aggregated project pipelines.



Confidence building

Increases public authority confidence in performance-based procurement and whole-building decarbonisation approaches.



Scalability and transferability

Provides a clear, standardised and structured way of aggregating building energy upgrades and guaranteeing energy performance that can be replicated across Ireland.

How DeliveREE differs from traditional approaches

Traditional approach

Traditional approaches to building decarbonisation can often be fragmented, with lengthy procurement processes and performance risk remaining with the building owner.



DeliveREE approach

DeliveREE offers a new approach, using a guarantee of energy performance as a way to align incentives and ensure outcomes, alongside aggregation and robust governance structures to see projects through to completion.



Introduction

Building decarbonisation is widely recognised as both a climate necessity and a major opportunity. Governments across Europe have introduced ambitious targets, expanded funding mechanisms and strengthened regulatory frameworks aimed at improving the energy performance of buildings. Despite this progress, delivery continues to lag behind ambition.

Codema, Dublin's Energy Agency, established DeliveREE to address a practical problem: the slow and fragmented delivery of building decarbonisation projects in the public sector, despite clear policy ambition and increasing availability of funding.

When the project began in 2020, the challenge was not a lack of targets or technical solutions. The need to decarbonise public buildings was already well understood and a range of funding and contracting mechanisms existed. However, projects continued to struggle to move from concept to delivery. Where upgrades were implemented, they were often small in scale, technology-led and disconnected from long-term performance outcomes.

Through DeliveREE, Codema set out to test whether a different approach to project delivery could address this gap. Over the course of the project it became clear that **delivery structures, rather than finance alone, were the critical constraint**. Capital was available in principle, both public and private, but projects often lacked the clarity, risk-alignment and performance focus required to move quickly and at scale.

In response, DeliveREE developed and tested a contractor-led, performance-based delivery model supported by a dedicated Project Implementation Unit in Codema and a structured project development process. While Energy Performance Contracting and private finance are important components of the DeliveREE approach, they are treated as enabling mechanisms within a wider delivery model designed to fix outcomes early, align risk appropriately and embed long-term performance.

This brochure summarises the challenge DeliveREE set out to address, the delivery model that was developed and the lessons learned for future decarbonisation programmes.

Accelerating building decarbonisation is not primarily a question of policy or finance. It is a question of delivery design.











DeliveREE project partners



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DeliveREE was a European project funded by Horizon 2020 that ran from 2020 to 2026 and comprised of the following partners:

Project partners

-  **Lead partner:** Codema, Dublin's Energy Agency
-  Philip Lee
-  Resourceful Futures
-  Sustainable Development Capital LLP
-  Dublin City Council
-  Dún Laoghaire-Rathdown County Council
-  Fingal County Council
-  South Dublin County Council



The delivery challenge






Across Europe there is broad recognition that renovation rates remain far below what is required to meet climate objectives. The International Energy Agency estimates that global building retrofit rates would need to more than double by 2030 in order to align with net-zero pathways¹. The European Commission's Renovation Wave strategy similarly identifies the need to at least double renovation rates and highlights structural barriers including fragmented markets, small project sizes and limited project development capacity².

These challenges are particularly visible in the public sector. Public buildings represent a significant share of the built environment and are directly within the influence of public authorities. They are therefore a logical starting point for accelerating decarbonisation. However, projects are frequently developed on a building-by-building basis and are often focused on individual technologies rather than whole-building performance outcomes.

Decision making can be fragmented across multiple stakeholders. Procurement processes may be lengthy and complex. Performance risk frequently remains with the building owner, which can limit the willingness to pursue more ambitious interventions. As a result, projects often struggle to move efficiently from concept to contract and from contract to delivery.

These challenges highlight an important lesson. **Increasing funding alone will not automatically accelerate renovation rates.** Delivery structures must also evolve to support faster and more coordinated implementation.

Common delivery barriers

-  Fragmented project development
-  Small and isolated projects
-  Complex procurement processes
-  Unclear risk allocation
-  Limited delivery capacity



¹ IEA, 2023

² European Commission, 2020

The DeliveREE approach

Through DeliveREE, Codema focused on redesigning the delivery architecture for building decarbonisation projects, using a series of local authority buildings as case studies. The central premise was that projects should be structured around clearly-defined performance outcomes, with responsibilities and risks allocated to the parties best positioned to manage them.

Contractor-led delivery model

In practice, this meant shifting towards a contractor-led delivery model supported by performance-based contracting and structured governance processes. Under this approach, responsibility for design development, implementation and long-term performance is assigned to the appointed contractor within the contractual framework. This creates stronger accountability for achieving energy and carbon outcomes over time.

At the same time, public authorities retain strategic oversight and decision-making authority. The delivery model introduces clear roles and responsibilities across the organisations involved, ensuring that governance requirements remain fully aligned with project delivery.

Aggregation

Another key feature of the approach is aggregation. Rather than developing isolated projects, DeliveREE promotes the creation of portfolios of buildings that can be developed and procured together. Aggregation helps reduce transaction costs, strengthens market engagement and creates clearer demand signals for suppliers.

To support this approach, the project developed a structured development pathway that guides projects from early planning through procurement, delivery and long-term operation.

Roles and responsibilities

The DeliveREE model also introduces clearly defined roles and responsibilities across participating organisations. Public authorities retain ownership and strategic decision-making authority while specialist functions such as technical review, commercial oversight and long-term performance delivery are embedded within the delivery structure.

Roles and responsibilities in the DeliveREE model

Project Implementation Unit



Performs a coordinating and oversight function across the full project lifecycle, ensuring strategic alignment, compliance with the Infrastructure Guidelines, management of documentation and continuity between stages.

Client



Retains ultimate ownership and decision-making authority for the building, approving progression at each Approval Gate, confirming strategic priorities and remaining accountable for governance and funding compliance.

Participating local authorities



Participate according to portfolio ownership and governance structures, with coordination structured to avoid the fragmentation that can arise when multiple authorities attempt to procure jointly without clear leadership.

Grant governing bodies



Grant governing bodies like the Sustainable Energy Authority of Ireland (SEAI) and Pathfinder provide a critical funding and compliance role, ensuring that grant conditions, reporting requirements and funding drawdown procedures are aligned with the model's staged Approval Gates.

Energy efficiency design (EED) consultant



Provides independent, technical scrutiny of energy modelling assumptions, decarbonisation pathways and design robustness to ensure proposed interventions are coherent, deliverable and aligned with performance objectives.

Quantity surveyor (QS)



Provides commercial oversight through monitoring cost plans, validating value-for-money assessments, supporting business case preparation and reviewing payment applications.

ESCo / appointed contractor



Assumes responsibility for design development, implementation and long-term performance delivery under the contractual structure, including accountability for achieving agreed energy and carbon results.

The 10-step DeliveREE pathway



Implementation and lessons learned

The DeliveREE model was not developed in isolation. It was tested and refined through live projects, real procurement processes and continuous engagement with local authorities and market participants.

Early implementation revealed practical challenges

Bid costs were initially high and market appetite was limited. Project development also took longer than anticipated in the early phases of the programme. Rather than maintaining a fixed model, the project team adapted the approach in response to these signals, simplifying procedures and clarifying roles and responsibilities.

The importance of institutional capacity

The creation of a dedicated Project Implementation Unit within Codema proved critical in coordinating stakeholders, maintaining governance alignment and sustaining project momentum. Without a centralised delivery function, managing complex procurement processes and evolving funding conditions would have been significantly more difficult.

Funding structures influence delivery outcomes

Public grant schemes shaped the balance between public and private finance within projects. Where grant structures strictly required matching public contributions, this reduced the potential role for private capital, even where the delivery model could accommodate it.

These experiences were gradually incorporated into the final delivery model, which reflects lessons learned from real implementation rather than theoretical assumptions.

The most important outcome of DeliveREE is not just the projects delivered but the creation of a functioning delivery system.



Awarded contracts

Local authority	Description	Contract value (approximate)	Carbon impact
South Dublin County Council	Rooftop solar PV framework for SDCC buildings	€0.5 million	79 tCO ₂ /year
South Dublin County Council	Arthurstown Landfill solar PV	€0.3 million	41 tCO ₂ /year
South Dublin County Council	Energy Performance Contracts for leisure and civic buildings (Clondalkin and Tallaght Leisure Centres, County Hall Tallaght, Clondalkin Civic Offices, Civic Theatre, Rua Red)	€9.2 million	908 tCO ₂ /year
Fingal County Council	Solar PV installations at Grove Road Offices, Swords County Hall and Coolmine Depot	€0.3 million	109 tCO ₂ /year
Kildare County Council	Energy Performance Contracts for leisure and civic buildings (Naas Swimming Pool, Athy Swimming Pool and Áras Chill Dara)	€4.9 million	661 tCO ₂ /year
Meath County Council	Energy Performance Contracts for leisure centres (Navan Aura and Trim Aura Leisure Centres)	€5.1 million	788 tCO ₂ /year
Louth County Council	Energy guarantee contract for three buildings (Dundalk Library, Dundalk Museum and Drogheda Fire Station)	€1.1 million	212 tCO ₂ /year (initial call-off contract only)
Total		€21.4 million	2,797 tCO₂ per annum

Continuation phase: Expected contracts

Local authority	Description	Estimated contract value (approximate)	Carbon impact
Dublin City Council	Fire station decarbonisation programme	€1.5 million	595 tCO ₂ /year
Dublin City Council	Leisure centre decarbonisation programme	€6 million	1,250 tCO ₂ /year
Dún Laoghaire-Rathdown County Council	Leisure centre decarbonisation programme (Loughlinstown, Meadowbrook and Monkstown Leisure Centres)	€4.5 million	597 tCO ₂ /year
Wicklow County Council	Leisure centre decarbonisation programme	€5 million	723 tCO ₂ /year
Louth County Council	Leisure centre decarbonisation programme	€5 million	359 tCO ₂ /year
Mid-East Energy Unit (Kildare, Louth, Meath and Wicklow County Councils)	Further energy guarantee contracts from MEEU multi-party framework	€3 million	440 tCO ₂ /year
Total		€25 million	3,964 tCO₂ per annum

These projects were funded under the Sustainable Energy Authority of Ireland's Pathfinder programme.

Results and impact

DeliveREE demonstrates that accelerating public sector decarbonisation is possible when delivery systems are structured effectively.

One of the most important outcomes of the project is the establishment of a functioning delivery framework supported by a **dedicated Project Implementation Unit**. This institutional capacity enables public authorities to move from ad hoc project development towards a continuous pipeline of decarbonisation initiatives.






The project has also **strengthened market engagement** by creating structured procurement opportunities and aggregated project pipelines. Predictable demand signals help encourage supplier participation, skills development and investment in the energy services market.

Beyond the immediate projects delivered, DeliveREE has also **contributed to building confidence among public authorities in adopting performance-based procurement and whole-building decarbonisation approaches**.

This institutional learning is an important foundation for scaling future programmes.

In addition, **core elements of the DeliveREE model are transferable**. The structural components of the model, including aggregation, standardisation, performance contracting, procedural clarity and institutional coordination, represent delivery principles that can be applied across different regions and governance systems.

What DeliveREE leaves behind

-  A tested delivery model
-  An operational Project Implementation Unit
-  Increased institutional capacity
-  Stronger market engagement
-  A transferable delivery framework



What DeliveREE means for the future

The primary legacy of DeliveREE is the establishment of an operational delivery system for public sector decarbonisation.

The project demonstrates that systemic change is possible within existing governance frameworks when delivery processes are structured clearly and risks are allocated appropriately.

Once decision-making pathways are simplified and responsibilities are clearly defined, projects move more predictably from identification to procurement and from procurement to contract award.

Importantly, this shift does not reduce scrutiny or governance. Instead, it reduces ambiguity. Clear approval stages and structured delivery pathways eliminate unnecessary delays and allow multiple projects to progress simultaneously.

For European climate policy, the implication is clear. Renovation rates will not double through funding increases alone. They will increase when delivery architecture is standardised, decision-making pathways are simplified and performance accountability is embedded contractually.

DeliveREE provides a practical example of how that shift can occur.



Key takeaways

DeliveREE provides a practical demonstration of how delivery systems can be redesigned to accelerate building decarbonisation.

Ultimately, **DeliveREE demonstrates that accelerating building decarbonisation is achievable when projects are structured clearly, risks are allocated appropriately and delivery pathways are simplified.**

Key lessons from the project include:



Delivery architecture is as important as funding in determining programme speed



Aggregated project portfolios reduce transaction costs and improve market engagement



Clear governance processes accelerate decision making



Performance-based contracting strengthens accountability for long-term outcomes



Institutional capacity is essential for sustained programme delivery



Structured delivery systems provide a pathway for scaling decarbonisation programmes across Europe



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