seai SUSTAINABLE ENERGY AUTHORITY OF IRELAND
ENERGY SHOW
20–21 March 2024

Rialtas na hÉireann
Government of Ireland

Energy Efficiency Obligation Scheme (EEOS) for Business and Public Sector

SEAI Energy Show 2024

seai.ie/energyshow

#seaienergyshow

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Overview

- EEOS Scheme
- Obligated Party (OP) supports
- Case Study 1 – Electric Ireland/ESB
- Case Study 2 – Enprova/ Donegal County Council
- Q & A

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EEOS Scheme

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Background

- The Energy Efficiency Obligation Scheme (EEOS) is a Government of Ireland energy efficiency scheme established in 2014 as the principal mechanism for achieving Ireland's Article 7 target under the Energy Efficiency Directive.

- SEAI is the scheme administrator for EEOS and is responsible for guidance, technical advice, target calculations, energy savings validation and reporting.

- The 2014-2020 EEOS supported energy efficiency actions in more than 300,000 homes and 3,000 businesses.

- The most recent 2021-2030 EEOS obligation period will achieve up to 60% of Ireland's energy efficiency target for 2030.

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Scheme Operation

How does the scheme work?

- Under EEOS, the largest energy suppliers and distributors that sell more than 400GWh of energy per year, known as Obligated Parties (OPs), are required to achieve annual energy efficiency targets.
- OPs can achieve their annual targets by supporting homeowners, businesses and communities to carry out energy efficiency upgrades in exchange for energy credits which count towards their annual target.
- EEOS is a regulation with three sub-targets:
  - Cross-sector (85%)
  - Residential (10%)
  - Energy Poverty (5%)

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Obligated party supports

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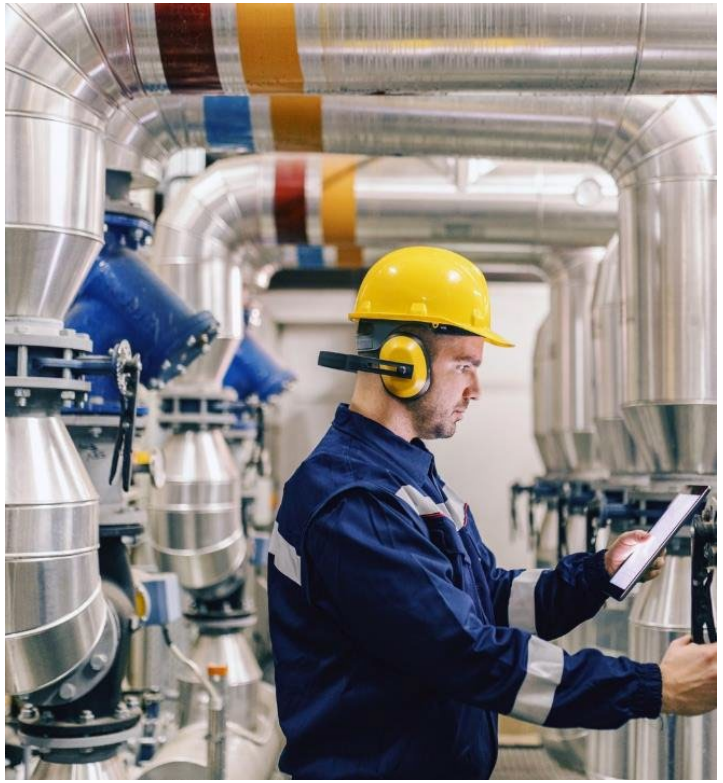
What kind of support can OPs offer?

- OP support can be technical and/or financial including the following:
  - a monetary amount per kWh
  - measurement and verification services
  - project management/ coordinator services
- For OP support to be eligible under EEOS, the OP must contribute to the achievement of the project **before the measures are installed** and the project must result in **final energy savings.**
- OPs often work in partnership with SEAI project coordinators and other delivery partners to offer additional financial supports on top of existing SEAI grants.
- Find OP contact details at: Businesses | EEOS | SEAI



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Eligible Supports

Heating	Ventilation & Air Conditioning	Electrification of Heat
Servicing, set point regulation, controls and fabric upgrade.	Free cooling, maintenance, optimisation of operation and general energy management.	Heat Pump Installation.
Lighting	**Motors, drives and pumps**	**Transport**
Decommissioning, maintenance, retrofit and controls.	Replacement, VSDs and control.	Eco-driving, fleet and energy management.
Refrigeration	**Compressed air**	**Industry processes**
Temperature control, pipe insulation, relocation and replacement.	Leak repair, optimisation, redesign and replacement.	Steam trap inspections, facility programmes and BMS.

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Energy Efficiency Obligation Scheme (EEOS) for Business and Public Sector
20th March 15:00 – 15:45

Kevin Hourigan, Customer Solutions Manager
Stephen Dunne, Energy Manager

ESB Energy for generations

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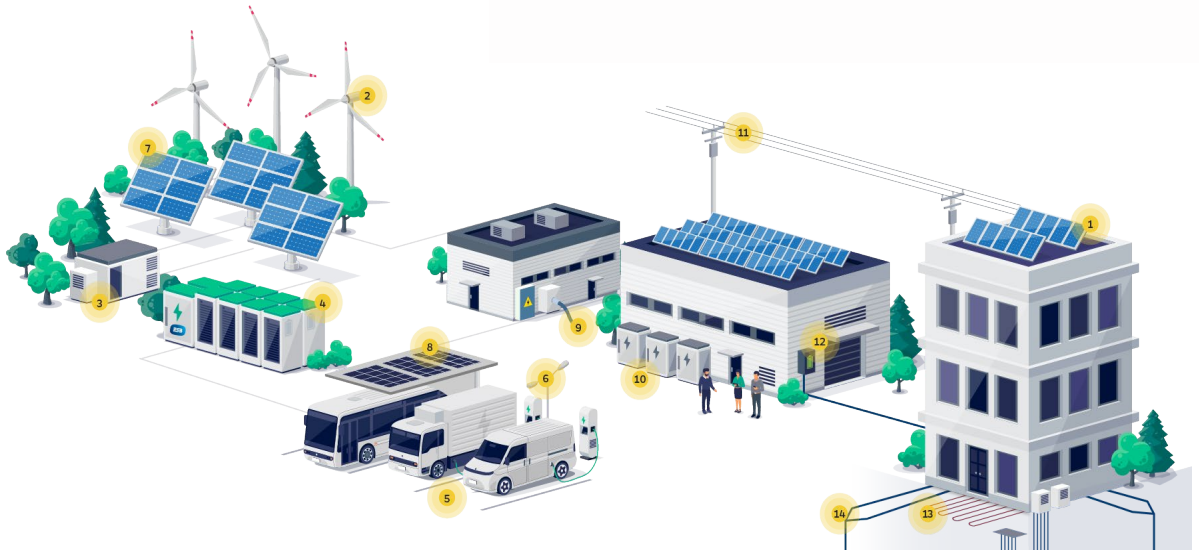
A range of solutions to meet your energy needs

ESB Energy for generations



Through a collaborative approach we offer a range of energy solutions for large energy users:

- Funded models – meaning no upfront investment required
- Engineering, Project Management and Asset
- Scalable models

Breakdown of our EEOS Target

Energy Efficiency Directive
(2018/2002/EU)

An Roinn Comhshaoil, Aeráide agus Cumarsáide
Department of the Environment, Climate and Communications

National target 2024-2030:
- 60,000 GWh

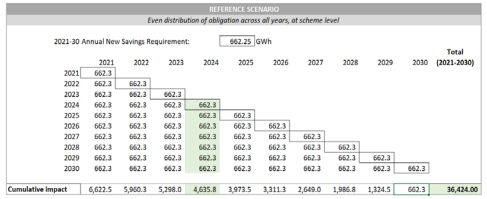
seai

60% EEOS

Energy Efficiency Obligation Scheme:
- 36,000 GWh

EEOS Target

- 36,000 GWh (Cumulative)



REFERENCE SCENARIO

Even distribution of obligation across all years, at scheme level

2021-30 Annual New Savings Requirement: 662.25 GWh

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total (2021-2030)
2021	662.3										
2022	662.3	662.3									
2023	662.3	662.3	662.3								
2024	662.3	662.3	662.3	662.3							
2025	662.3	662.3	662.3	662.3	662.3						
2026	662.3	662.3	662.3	662.3	662.3	662.3					
2027	662.3	662.3	662.3	662.3	662.3	662.3	662.3				
2028	662.3	662.3	662.3	662.3	662.3	662.3	662.3	662.3			
2029	662.3	662.3	662.3	662.3	662.3	662.3	662.3	662.3	662.3		
2030	662.3	662.3	662.3	662.3	662.3	662.3	662.3	662.3	662.3	662.3	
Cumulative Impact	6,622.5	5,960.3	5,298.0	4,635.8	3,973.5	3,311.3	2,649.0	1,986.8	1,324.5	662.3	36,424.00

- 662.25 GWh (Annual)

Obligated Parties
= Energy Suppliers

electric Ireland, Bord Gáis Energy, SSE Airtricity, CALOR, energia, FLO GAS, Prepay Power, LCC GROUP

Energy Suppliers Market
Share from 2 years ago*

electric Ireland
14.93%

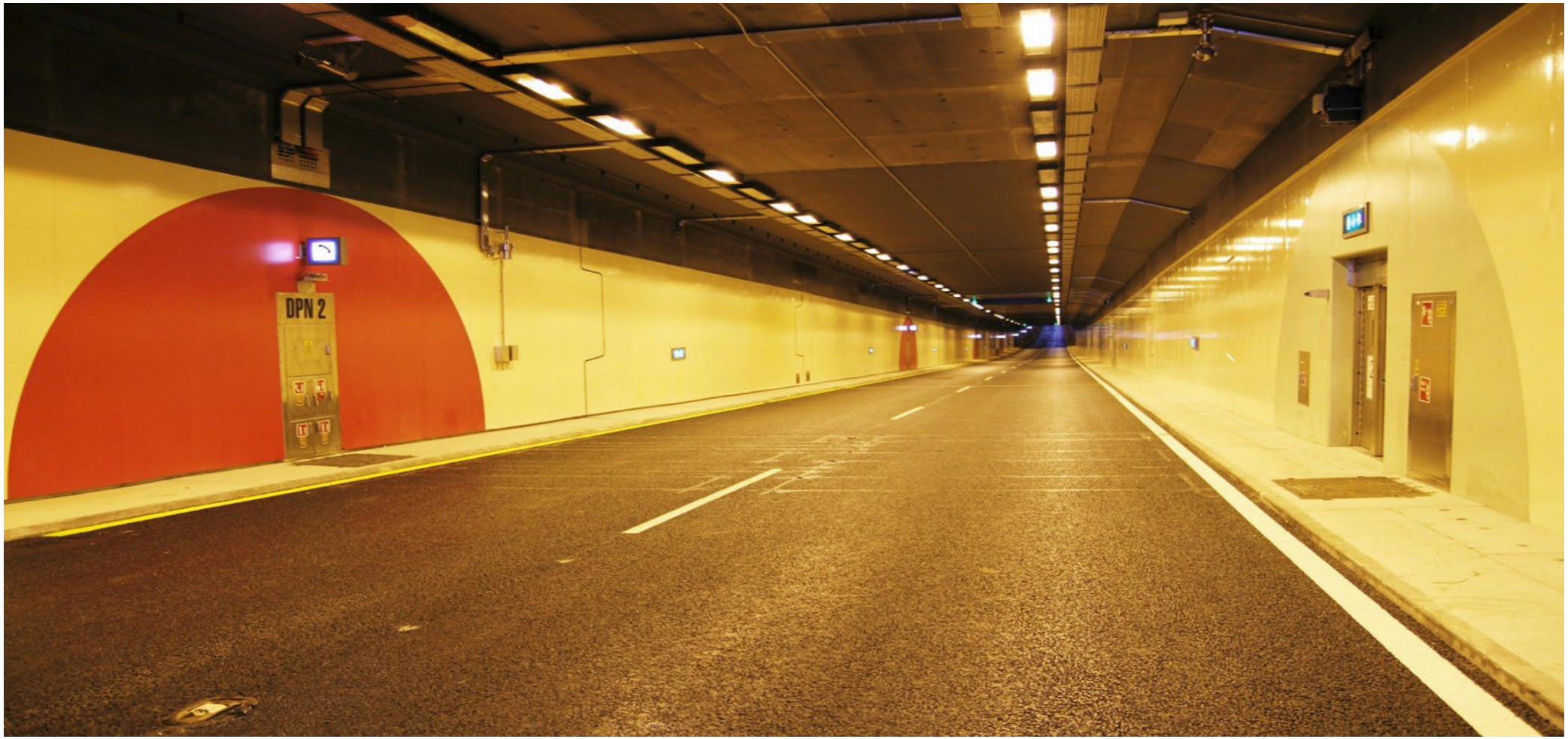
The Cross Sectoral EEOS Process

The Client engages with the Obligated Party or Aggregator → A project Energy Efficiency Agreement is drawn up → The Efficiency Conservation Measure is carried out → Data is collected for the Baseline and Reporting periods

↓

A Measurement and Verification report is completed → The M&V Report is submitted to the SEAI → SEAI will evaluate, audit if necessary and Validate the credits → Payment will then issue from the Obligated Party to their client

Limerick Tunnel Lighting- Signify & DirectRoute Pre-Works



Limerick Tunnel Lighting Post-Works

Limerick Tunnel Lighting Results

Existing Technology	Approx. Existing System Power	Proposed Metis LED retrofit	Proposed System Power	Approx. Saving	Quantity of Fittings
400W HPS	450W	34klm	207W	54%	875
150W HPS	180W	9klm	53W	69%	174

SEAI Lighting Tool Calculator

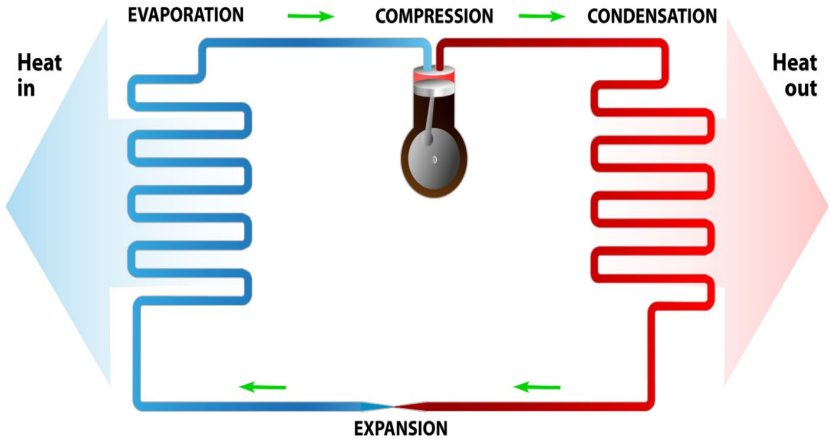
Original luminaires kWh pa:	1,206,556
New luminaires kWh pa:	580,533
Saving kWh pa:	626,023
Saving kWh (PEE)	1,095,540
% Saving kWh pa:	52%
CO2 reduction (t/a):	140
Cost saving (€ pa):	€ 175,286
Upgraded W/m² :	12

Case Study #2 Confidential Client

- LTHW loop with heat recovery
- Client Installed a Heat Pump to displace 2 Gas Boilers from site
- Heat Pump has a Notional COP of 3.3
  - For every 1 kW of Electricity Inputted you get 3.3 kW of Heat

2 x 729 kW Gas Boilers

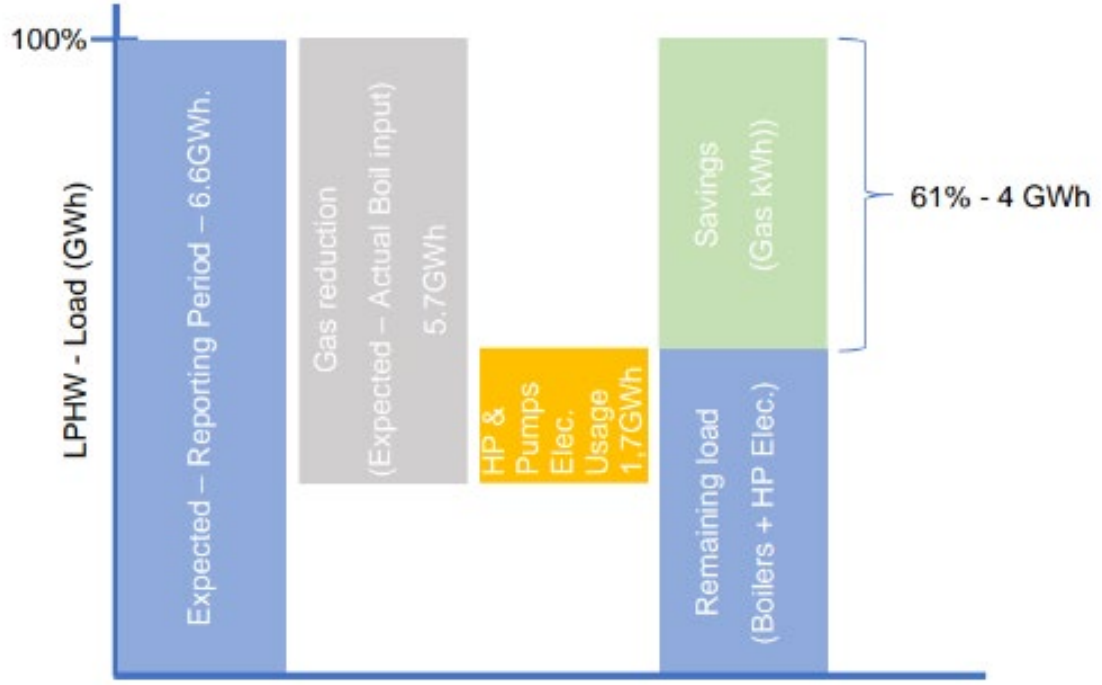
187kW Water-Water Heat Pump



Heat Pump Process

Case Study #2 Confidential Client

- A Comprehensive M&V report detailed the methodology used in the calculations incorporating static and variable factors etc.
- 1 Year Gas KWh saved – HP Electrical KWh = Energy Reduction



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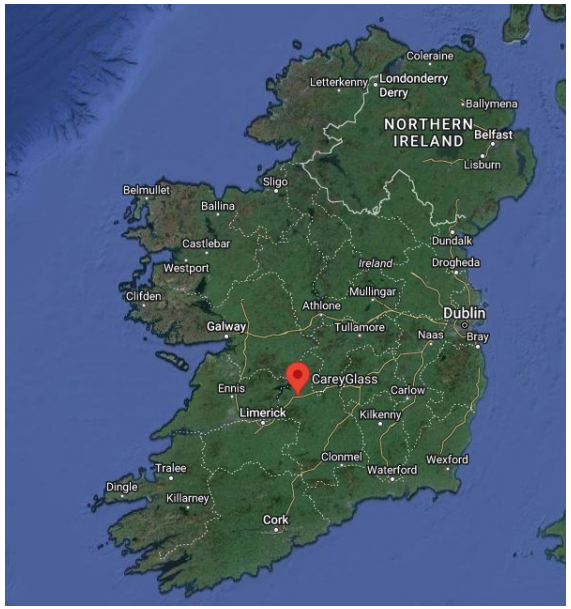
Carey Glass – Energy Partnership

ESB Energy for generations



- HQ in Nenagh, Co Tipperary
- 800,000 sq ft Manufacturing Facility
- 750 Employees across Ireland & UK
- Manufactures high performance glass solutions for major projects
- ISO 50001 Certified

ECM's

Plan

- Identified largest energy users onsite,
- toughening plants, heat soak ovens and laminating autoclaves.

Do

- Developed a SOP to utilise equipment to its optimum capacity
- Installed new Tuf Plants

Check

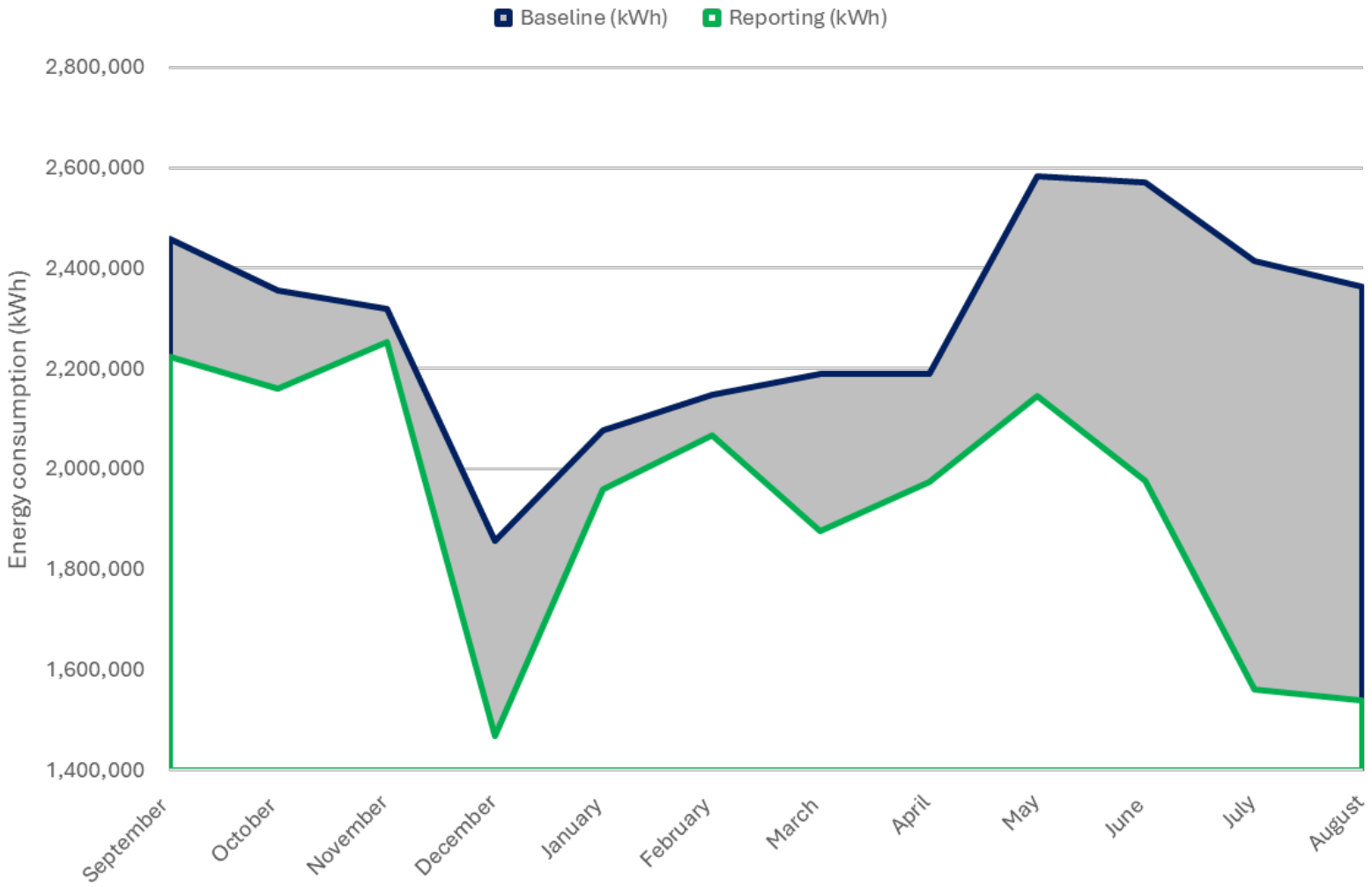
- Monitor, Analyse, Verify
- Corrective Actions / Preventative Actions

Act

- Management Review
- Optimisation and Set New Goals

ECM's

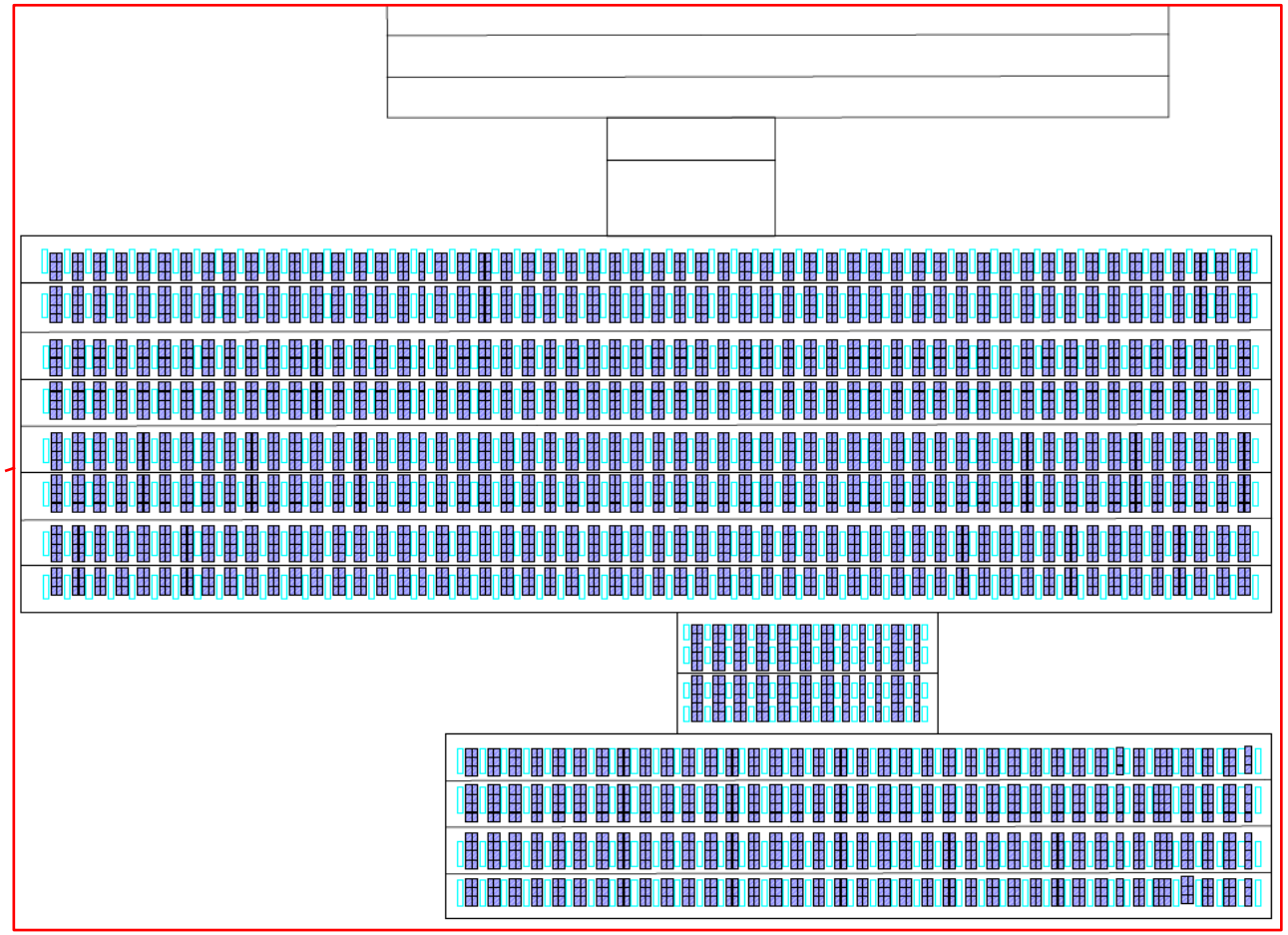
Carey Glass - Outcome



- Pre ECM: 27,525,521 kWh
- Post ECM 23,196,020 kWh
- Savings: **4,329,501 kWh**

Progress Beyond EEOS

- DC Power kWp = 1,843.56
- No. Of Modules = 4552
- Performance Ratio: 85.79%
- Yield: 854 kWh/kWp/year
- Production: 1607 MWh/year



Progress Beyond EEOS

Closing Remarks

- 7 Years remaining in this phase of the Obligation to 2030
- Obligated Parties are Open for Business and Approachable
- You are not locked into your energy supplier
- Support may be Financial, Expertise, M&V

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SUPPORTING THE PUBLIC SECTOR THROUGH THE ENERGY EFFICIENCY OBLIGATION SCHEME

ENPROVA
IRELAND'S ENERGY CIRCLE

retrofitenergy
IRELAND LIMITED

PADDY SWEENEY, RETROFIT ENERGY IRELAND

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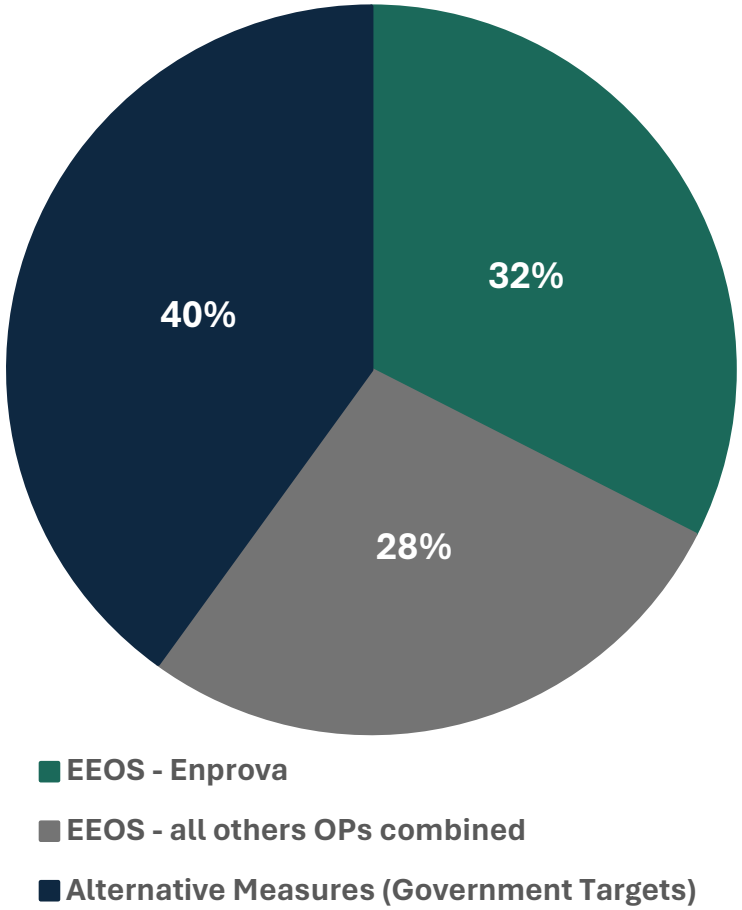
retrofitenergy IRELAND LIMITED

WE PLAY A MAJOR ROLE IN REDUCING IRELAND'S ENERGY CONSUMPTION



We are responsible for a significant **32% of Ireland's total annual energy reduction target**.

ENPROVA IRELAND'S ENERGY CIRCLE

OUR STRATEGY

- Develop long-term relationships with clients
- Not deal with one-off projects
- Maximise your energy credits
- Tailor support to your needs – every client is different

OUR PROVEN STRATEGY GUARANTEES MEASURABLE IMPACT

M&V Submitted to SEAI (following our evaluation)

M&V 1st Received from Client

- We thoroughly review M&Vs to maximise credits.
- We do not seek to limit the number of energy credits over the duration of the scheme.
- Our approach is accepted by SEAI as good practice. Track KPIs over time.

TYPES OF SUPPORT

- Monetary Contribution for kWhs
- Measurement and verification services
- Quality assurance services
- Tender evaluation support
- Technical supports
- Access to expertise
- Project management/ coordinator services (on grants)

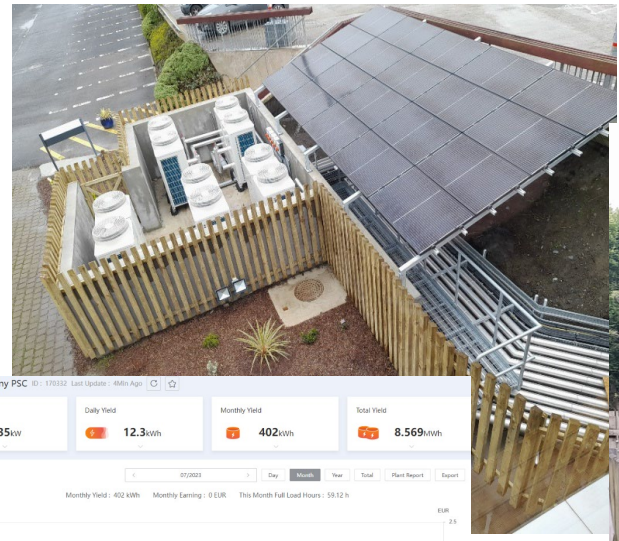
LETTERKENNY PUBLIC SERVICES BUILDING – BEC PROJECT

- Scoped out initial energy audits
- Assisted in defining budget costs and specifications
- Helped secure capital grants
- Engaged consultants to do full design on system
- Confirmed that the project met all the necessary grant criteria to ensure funding could be obtained
- Funded independent Measurement & Verification

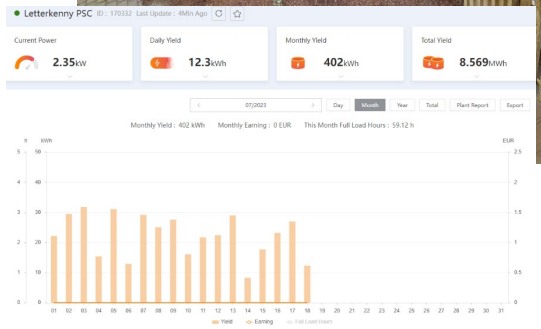
Comhairle Contae Dhún na nGall
Donegal County Council

1,000 litre Buffer Tanks and Heat Exchanger

Front Façade



Air Source Heat Pumps
PV Solar Panel System



Solar PV Meter

Existing Oil Tank

Oil Tank
Removed

Flow / Return Cast Iron Ducting

SHORT VIDEO OF DONEGAL COUNTY COUNCIL PROJECT

TRANSPORT: FUEL EFFICIENCY

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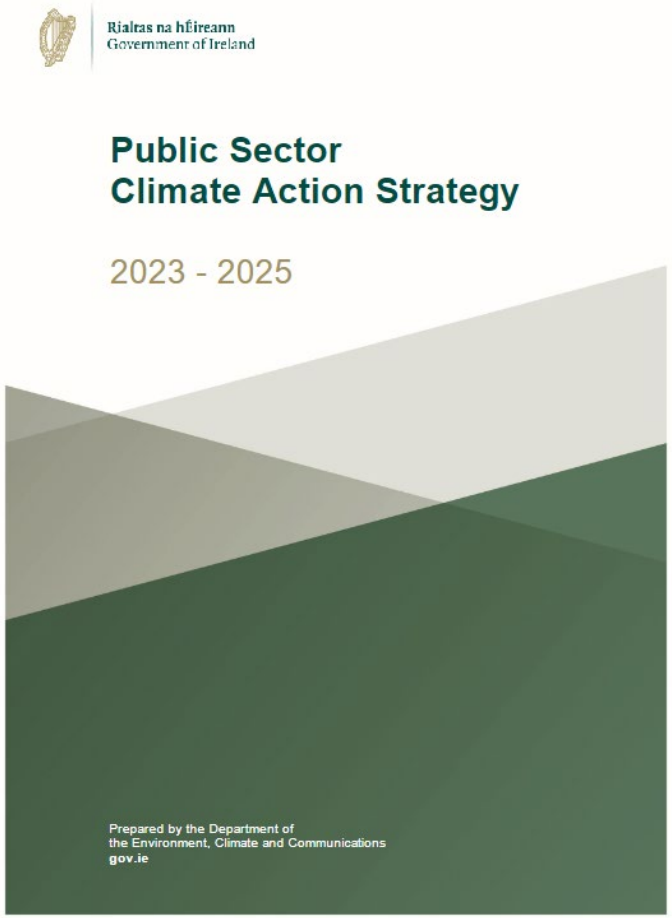

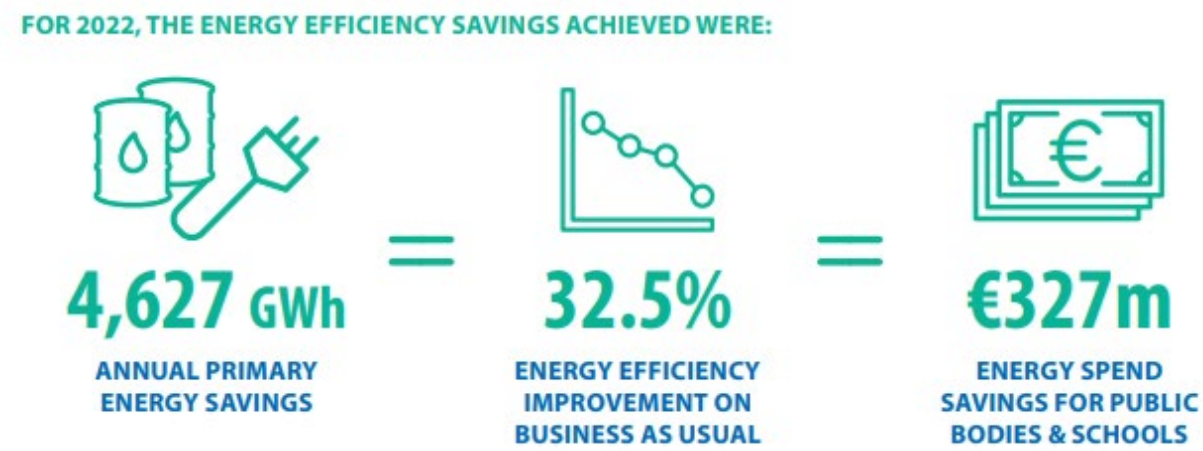

*The necessary step-change in our climate ambition will require the **public sector to play a leadership role** as a catalyst for far-reaching climate action across buildings, transport, waste, and energy. The public sector is best placed to **lead Irish efforts** to combat climate change and harness the opportunities and rewards that will come from moving swiftly and efficiently to a low-carbon society.*

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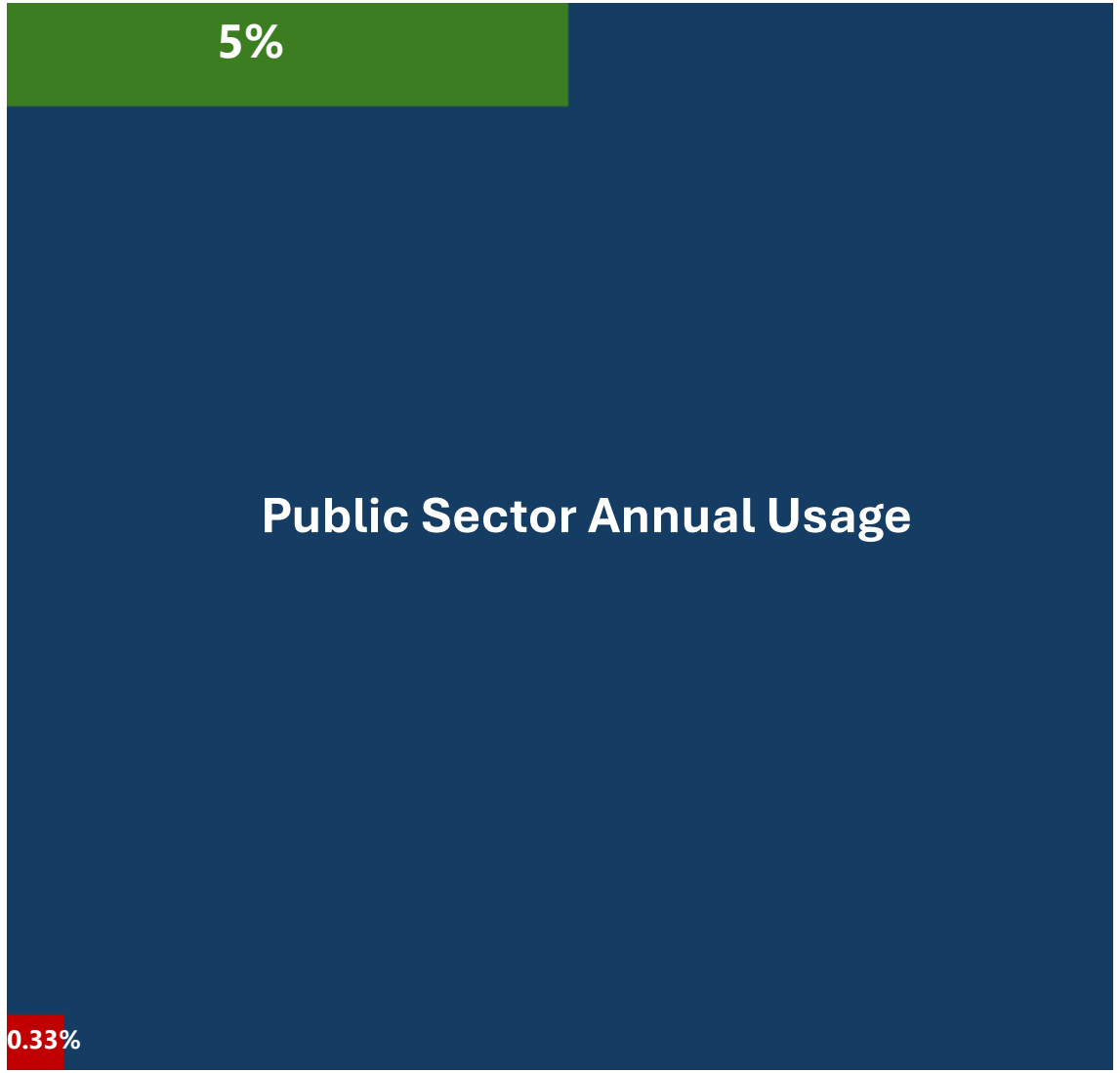
retrofitenergy IRELAND LIMITED

ENPROVA ANNUAL TARGET AS % OF ENTIRE PUBLIC SECTOR ANNUAL USAGE

PUBLIC SECTOR ANNUAL ENERGY CREDITS* AS % OF THEIR ENTIRE ANNUAL USAGE



*Cross-sectoral energy credits

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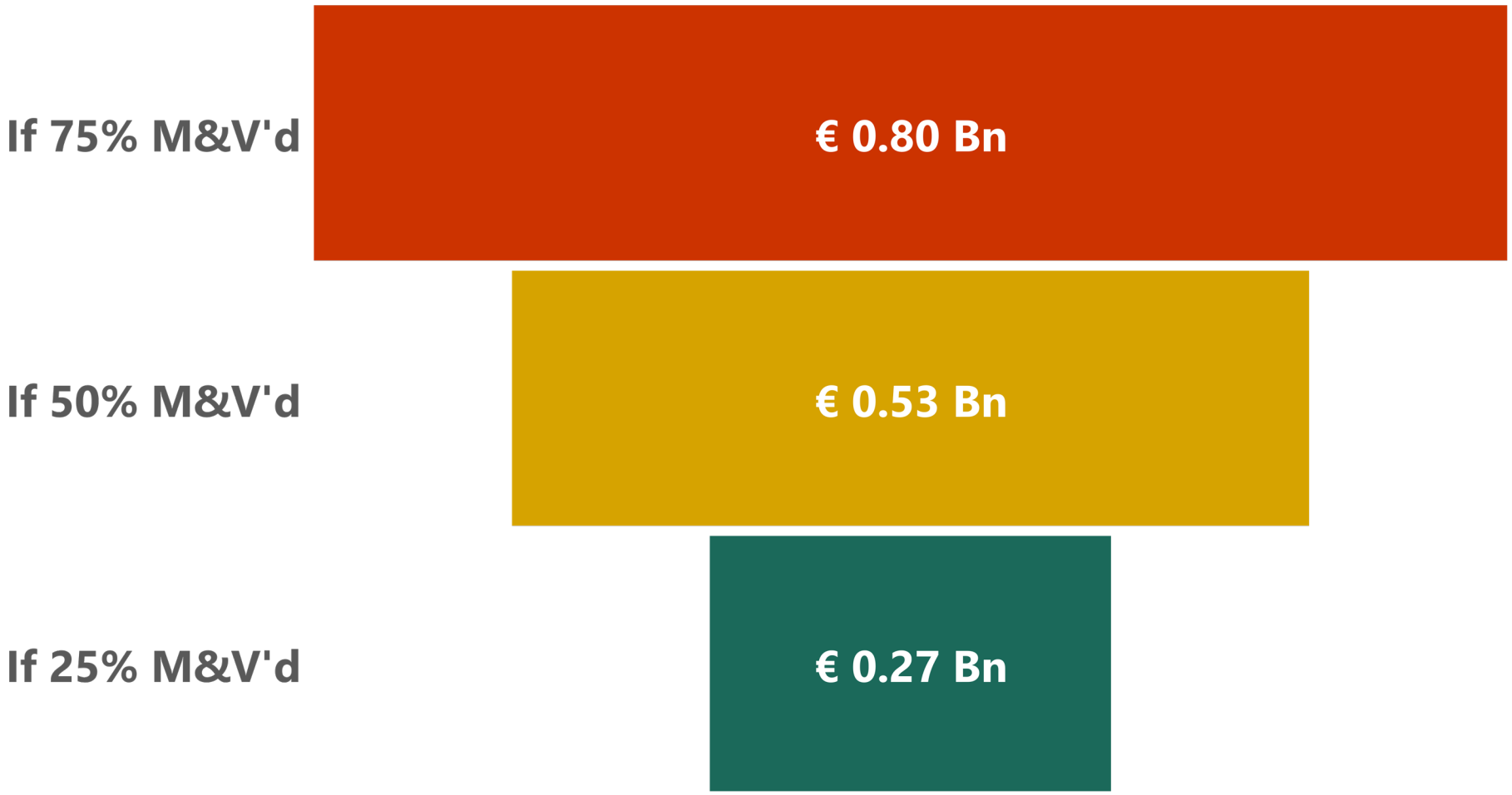
LOST ENERGY CREDITS FROM ENERGY SAVINGS NOT MEASURED & VERIFIED (2020 TO 2023)



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Thanks for Listening!

Q & A

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