The Local Energy Transition, Step by step guide to grants and useful case studies

Butler House

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Overview

Introduction

Energy in the 3 Counties

Kilkenny County Council – Energy Efficiency

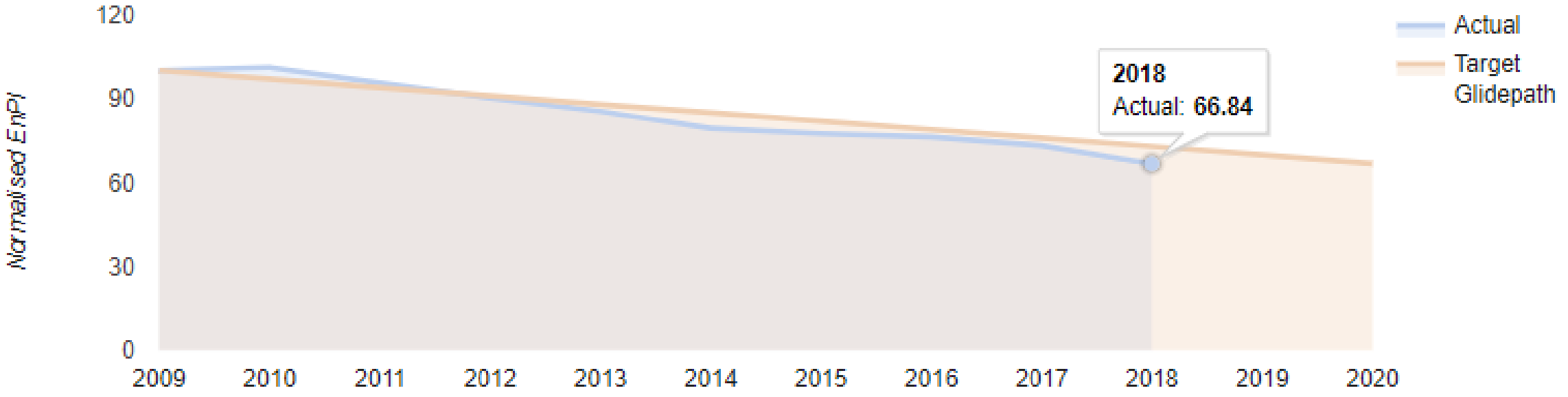
Challenges for the public sector

Grant funding opportunities

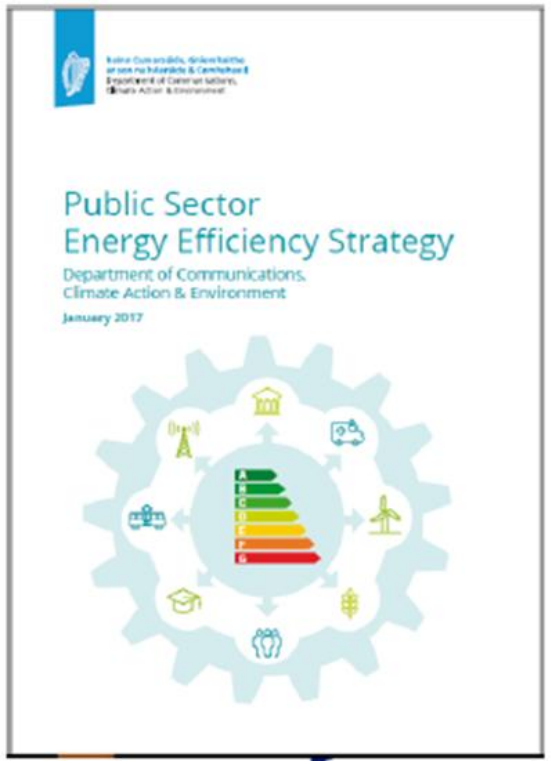
Energy in the 3 counties

- Carlow County Council (26.3%)
  - Energy Costs: €1.1million (Public Lighting €500k)
  - Energy Usage: 12,700,000 TPER
  - Carbon Emissions: 2,695 tonnes of CO2
- Kilkenny County Council (26.8%)
  - Energy Costs: €1.6million energy (Public Lighting €700K)
  - Energy Usage: 25,000,000kWh TPER
  - Carbon Emissions: 5,117 tonnes of CO2
- Wexford County Council (26.2%)
  - Energy Costs: €3 million energy (Public Lighting €1.4m)
  - Energy Usage: 34,000,000kWh TPER
  - Carbon Emissions: 7,010 tonnes of CO2

- Total Energy Spend
  - Energy Costs: €5.6million energy (Public Lighting €2.2m)
  - Energy Usage: 71,700,000kWh TPER
  - Carbon Emissions: 14,822 tonnes of CO2



Progress to 2020

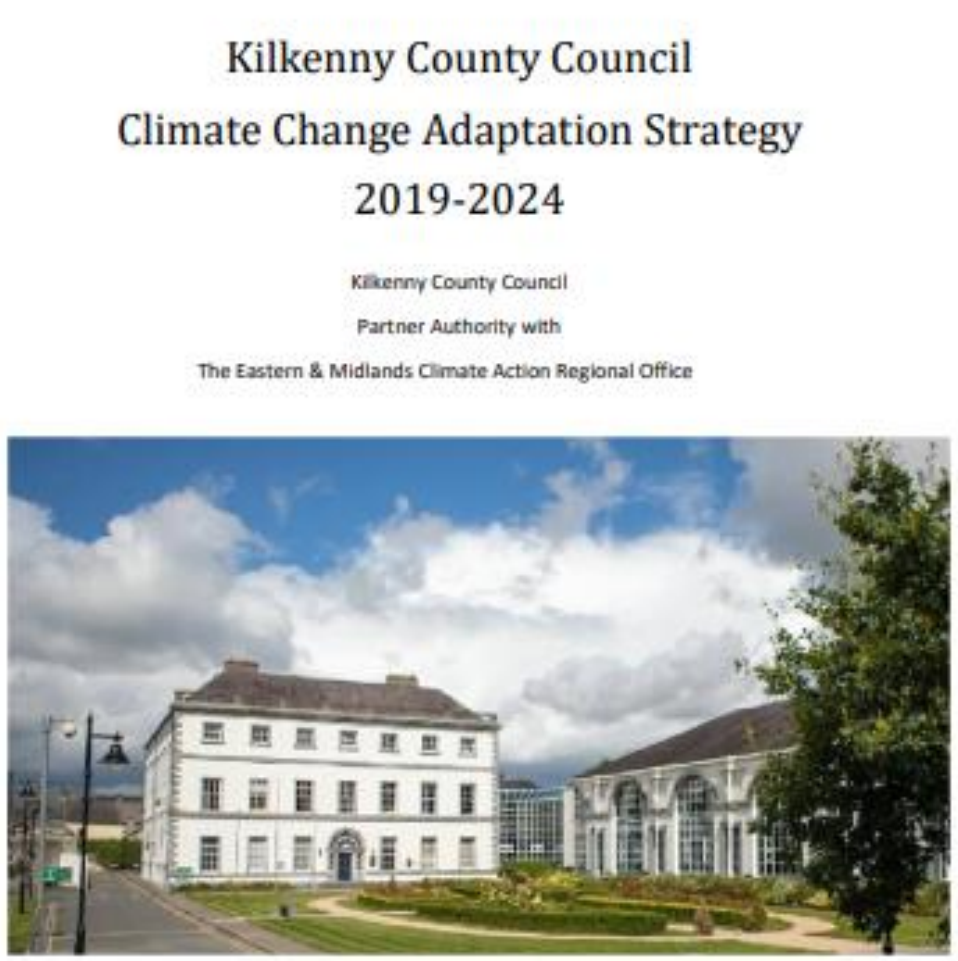


Public Sector Obligations

- Exemplar Role
  - 33% by 2020
  - 50% by 2030
  - 30% CO2 Reduction by 2030
- Energy Audits
  - 500m2 and/or
  - €35,000 energy bill
- Purchase or lease buildings that are A3 BER or better

Exemption: Purchasing or leasing a protected structure

- Display Energy Certificates
- 2018 - NZEB



Climate Adaptation

- Communicate and adhere to statutory requirements relating to the architectural interests of historic buildings and impacts of service upgrades, when assessing for suitable solutions to increasing energy performance of a building
- Undertake Energy Audit of Historic structures in the ownership of the Local Authority, providing a common template for audit or assessment of works
- Develop policy in the City & County Development Plan to promote local materials and use of sustainable, low carbon footprint materials instead of those that require intense high temperature and carbon emissions
- Encourage further research and pilot schemes for the deep retrofit of historic properties while assessing whole life durability of products and embodied energy of historic buildings.

EPBD - Part L 2017 Building Regulations

The definition for Nearly Zero Energy Buildings in the EPBD 2010/30/EU is as follows:

‘Nearly zero-energy building means a building that has a very high energy performance. The nearly zero or very low amount of energy required should be covered to a very significant extent by energy from renewable sources, including energy from renewable sources produced on-site or nearby.’

Article 9 of the EPBD requires that Member States ensure that:

- (a) by 31 December 2020, all new buildings are nearly zero-energy buildings; and
- (b) after 31 December 2018, new buildings occupied and owned by public authorities are nearly zero-energy buildings.

Major Renovation

Providing that where more than 25% of the surface area of the building envelope undergoes renovation

The energy performance of the whole building should be improved to Cost Optimal level in so far as this is technically, functionally and economically feasible

When calculating the proportion of surface area undergoing renovation the area of the whole building external envelope should be taken into account including i.e. external walls, roofs, floors, windows, doors, and roof windows and lights

When undertaking on or in connection with a building that is of architectural or historical interest the aim should be to improve the building as far as is reasonably practical. The work should not prejudice the character of the building or increase the risk of long term deterioration of the building fabric or fittings

NZEB for Traditional Buildings

- Part L does not apply to works (including extensions) to an existing building which is a “protected structure” or a ‘proposed protected structure” within the meaning of the Planning and Development Act 2000 (No 30 of 2000)I
- In specific cases, services and their controls can play a large part in improving energy efficiency. In most traditional buildings, building services such as heating systems, plumbing and electrical installations are not original to the building and there may therefore be some flexibility in altering them.

Energy Audits

- SI 426 Audits Completed in 3 Counties

  - Carlow County Council
  - Kilkenny County Council
  - Wexford County Council

SI426 ENERGY AUDIT REPORT

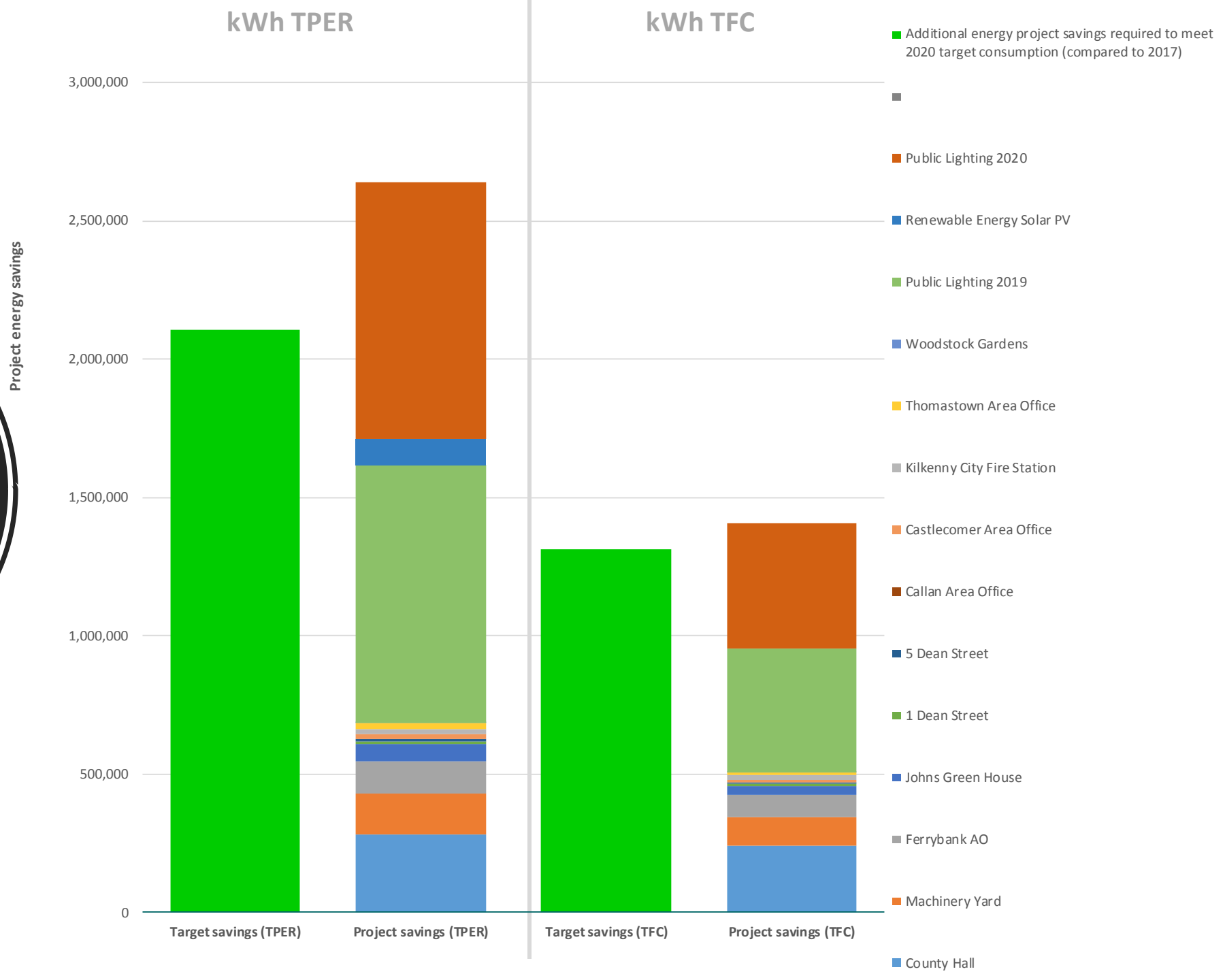
Kilkenny City Fire Station, Gaol Road, Kilkenny

CLIENT: KILKENNY COUNTY COUNCIL

PREPARED BY: DECLAN KEOGH

3 COUNTIES ENERGY AGENCY
BURRELLS HALL, COLLEGE ROAD, KILKENNY

Kilkenny County Council G2T – Projects



3 Counties Projects Identified

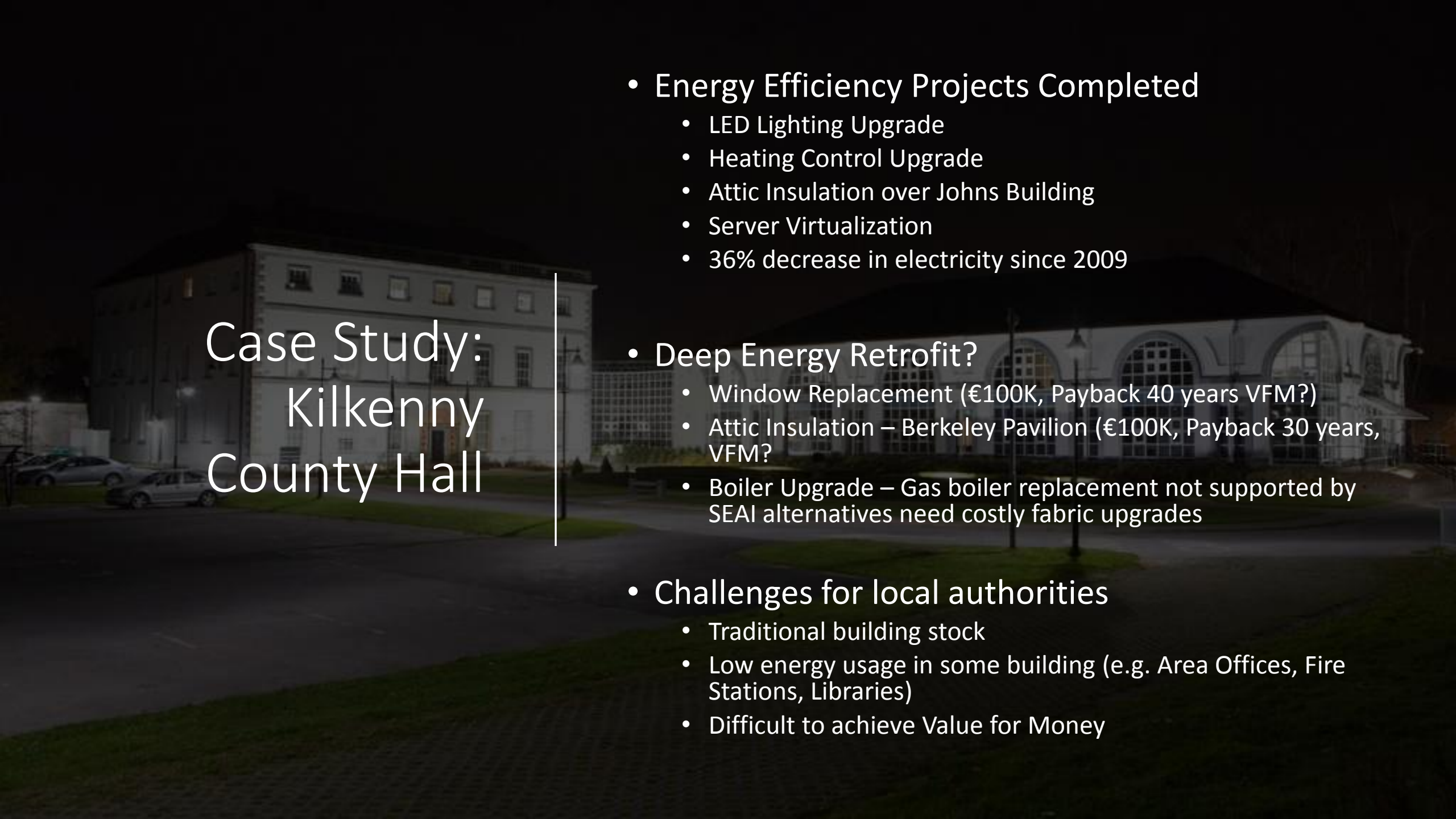
County	Energy Efficiency Measures	Energy Saving	Investment Cost	Energy Saving
Carlow	Lighting, Heating, Solar PV, Public Lighting	932,181 kWh	€892,532	€101,222
Kilkenny	Lighting, Heating, Solar PV, Public Lighting	1,060,359 kWh	€967,545	€109,328
Wexford	Lighting, Heating, Solar PV, Public Lighting, Transport	1,572,677 kWh	€1,723,520	€219,507
			€3,583,597	**€430,057**
			Simple Payback	**8.3 Years**
Need to include additional public lighting projects and transport projects				

Project Pipeline & Collaboration in 3 counties

- Lighting Internal & External
  - Upgrade lighting to LED
- Heating Systems Upgrade
  - Biomass Boilers
  - Air Source Heating
  - Heating Controls
- Fabric Upgrades
  - Insulation
  - Windows & Doors
- Solar Photovoltaics
- Transport
  - Electric Vehicles
  - Driver Training
- Street lighting
  - Upgrade lighting to energy efficient LED

Challenges for local authorities

- Nearly Zero Energy Buildings
  - How do we ensure compliance?
- Whole building solution? (25% of building fabric)
  - Knock the building or retrofit?
- Traditional Buildings
  - Internal Walls, Ceilings and Floors
  - External Façade
  - Windows and Doors
- Rental Properties
  - Landlord incentives to retrofit



Case Study: Kilkenny County Hall

- Energy Efficiency Projects Completed
  - LED Lighting Upgrade
  - Heating Control Upgrade
  - Attic Insulation over Johns Building
  - Server Virtualization
  - 36% decrease in electricity since 2009
- Deep Energy Retrofit?
  - Window Replacement (€100K, Payback 40 years VFM?)
  - Attic Insulation – Berkeley Pavilion (€100K, Payback 30 years, VFM?
  - Boiler Upgrade – Gas boiler replacement not supported by SEAI alternatives need costly fabric upgrades
- Challenges for local authorities
  - Traditional building stock
  - Low energy usage in some building (e.g. Area Offices, Fire Stations, Libraries)
  - Difficult to achieve Value for Money

Housing Case Study – Wexford CoCo Deep Retrofit

What we need to be cognisant of;

RISING COST OF ENERGY

GOVERNMENT POLICY (CLIMATE ACTION PLAN)

NO SUPPORTS FOR FOSSIL FUELS

USE OF APPROPRIATE MATERIALS FOR ENERGY EFFICIENCY WORKS

Energy Efficiency Grants and Supports

Project Grant Assistance

Project type	Funding level
Feasibility study and Project Energy Audit	Up to 50% funding to a maximum of €15,000
Final business case and project delivery support grant	Up to 75% funding to a maximum of €15,000 where basic energy performance arrangements are considered and up to €37,500 where energy performance contracting (EPC) is considered

Project Assistance Grants for Energy Saving Projects

Application Guide

www.3cea.ie admin@3cea.ie +353 (0)56 779 0856

Project Assistant Grant

Feasibility study	A feasibility study will help to evaluate energy saving opportunities further. At the end of this stage, you can decide if a project is suitable to your organisation.	Up to **50% funding** is available up to a maximum of €15,000 at this stage depending on the size of your energy bill.	Final business case and project delivery support	This grant enables organisations to engage external resources to develop projects further. External resources include baseline quantification, asset assessment, procurement specialists, and project facilitation. You must incorporate a Pay for Performance element into the project to avail of this support.	Up to **75% funding** to a maximum of €15,000 where basic energy performance arrangements are considered and up to €37,500 where energy performance contracting (EPC) is considered at this stage .

www.3cea.ie admin@3cea.ie +353 (0)56 779 0856

SEAI Communities Grant

- Group Application
- Community (GAA Clubs, Sports Clubs, Community Centres, Churches)
- Public Sector (Public Bodies, Local Authorities etc.)
- Private/SME
- Social, Voluntary and Private Homes

What BEC fund's

Projects supported

- Successful Community projects must demonstrate some or all of the following characteristics.
- Community benefits
- Multiple elements, not a single focus
- Mix of sustainable solutions
- A clear road map
- Innovation and project ambition
- Justified energy savings
- An ability to deliver the project

Measures supported

- This list outlines the types of measures we want to support through the Communities grant programme.
- Building Fabric Upgrades
- Technology and System upgrades
- Integration of Control Systems
- Integration of renewable energy sources
- Domestic Combined Fabric Upgrade
- Single Building Demonstration projects will be considered under the Communities Grant.

We do not support projects without demonstrated community benefits. We also do not support projects with single elements, renewable elements only, auditing projects, (eg M&V requirements), Monitoring only projects. Homes constructed after 2006 can not be included.

Parties Involved

SEAI

- Award grant funding

Lead Applicant

- Lead Applicants (Local authorities, Leader Partnerships, Private Companies, PB's)
- Responsible for ensuring that all of the Beneficiaries comply with the T&C's

Project Coordinator

- Project co-ordinator
- Quality Assurance
- Payment Claims

Communities/SME's/Public Sector Bodies

- Beneficiary

Measurement & Verification

Estimated savings (kWh) were submitted as part of application

All projects must verify savings after completion (IPMVP)

SEAI will require 12-months energy monitoring

Before project

After project

If savings not achieved, may require explanation

SEAI could ask for grant to be returned

10% Retention on projects applications over €250K

SEAI Community Grant

How do I join a community grant?

- Contact one of the current community grant coordinators
- Contact the communities team in SEAI
- Lead an application as a public body
- Contact EEOS

Community Grant Coordinators (Non-Exhaustive List 2019)

- Waterford City & County Council
- Energy Wise Construction
- Tipperary Energy Agency
- North Tipperary Leader Partnership
- 3 Counties Energy Agency
- Midland Warmer Homes
- Enprova/Retrofit Energy Ireland Ltd (REIL)
- ESB Energy Services
- Eco Merit
- NCE Insulation
- FutureFit

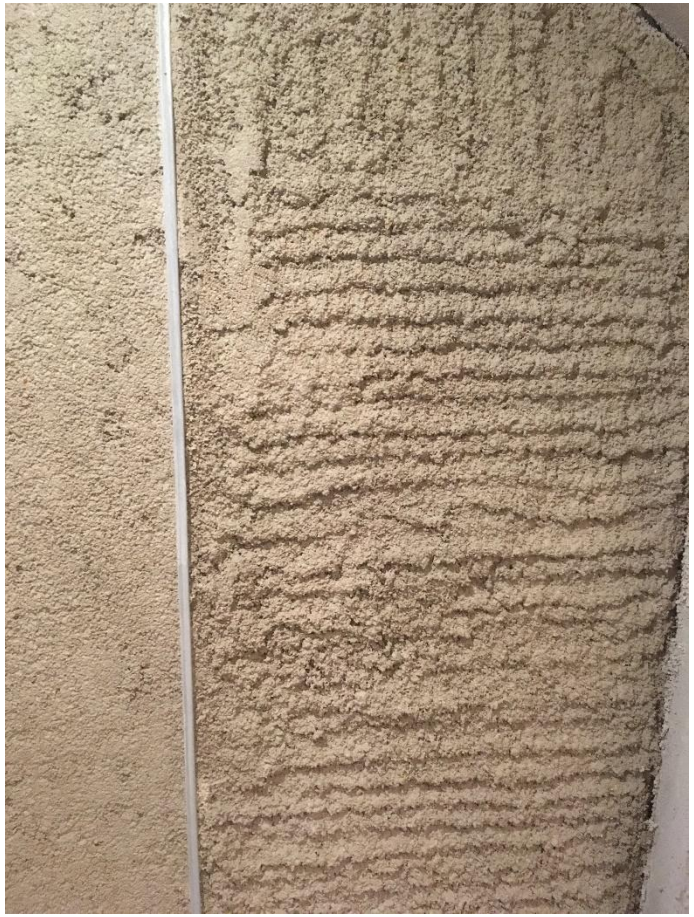
Abbeyside Church – Case Study

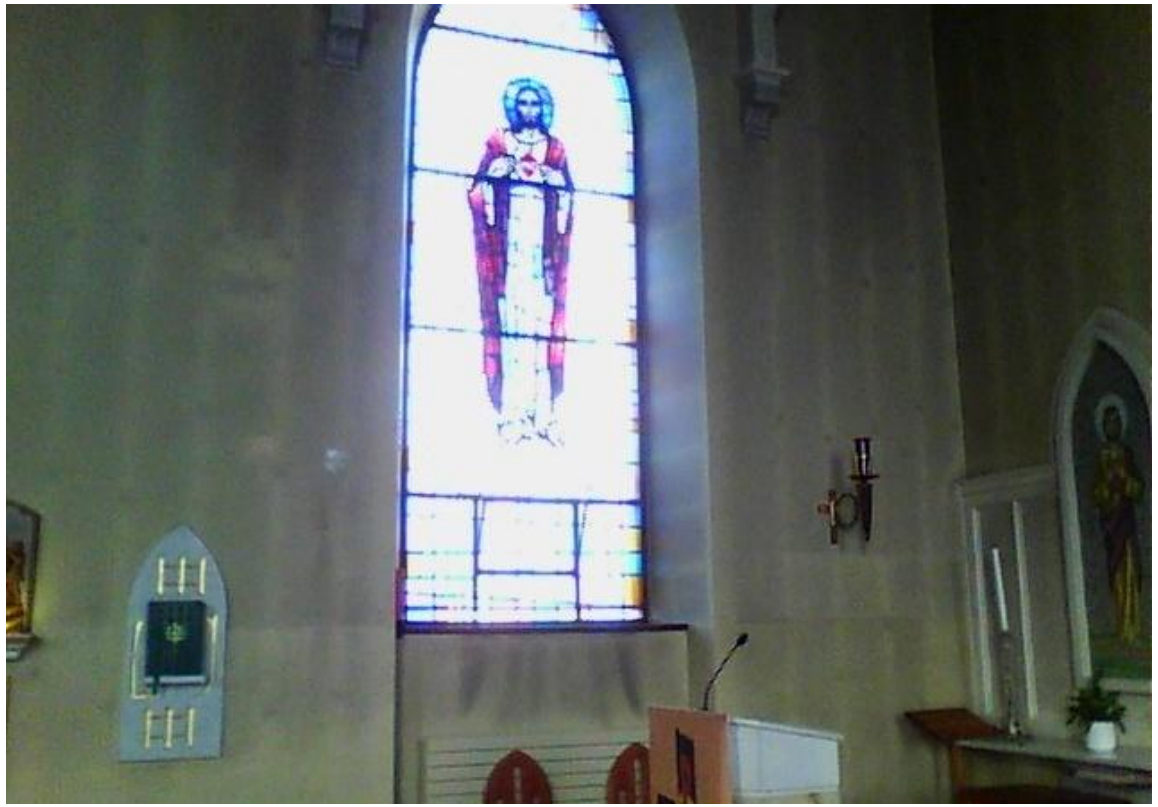
- Built in 1832 incorporating fabric of earlier medieval Augustinian priory
- Renovated in 70's and 90's
- Deep energy renovation 2019

Challenges for Abbeyside Church

- Traditional building
- Ventilation
- Rising energy costs
- Comfort and preservation of the building

Window Detail





Thermal Imaging

Other Solutions

Sample Project: BEC Milestones

SEAI EXCEED

Excellence in Energy Efficiency Design (EXEED) enables organisations establish a systematic approach to design, construction, and commissioning processes for new investments and upgrades to existing assets.

The EXEED Certified program aims to influence and deliver new best practices in energy efficient design management.

EXEED designs, verifies, and manages optimum energy performance and management at the earliest stages of the lifecycle.

SEAI also provide an EXEED grant scheme up to the value of €500,000 per year per project. Visit our EXEED grant information page for more information.

SEAI EXEED Process

Designed

- Planning
- Design for Energy Performance
- Design for Energy Management
- Project Summary

Verified

- Measure and Verify

Managed

- Energy Management

Climate Action Fund is an initiative of Project Ireland 2040

€500m allocation 2019 – 2027

The focus of this Call for Applications is providing grant funding to larger scale projects (seeking total support in excess of €1m) that are scheduled to commence development in 2019 or 2020. Support will be provided to projects which, in the absence of support from the Fund, would not otherwise be developed

The Climate Action Fund is planned to have a wide-ranging scope supporting projects that can contribute to Ireland's climate and energy targets. As part of this Call for Applications, the types of projects that may be supported include:

- -renewable energy projects;
- -energy efficiency projects – including high-efficiency cogeneration;
- -district heating projects;
- -local infrastructure projects – including electric vehicle charging networks; and
- -projects that go beyond required standards for environmental protection.

Climate Action Fund

Rialtas na hÉireann Government of Ireland | Tionscadal Éireann Project Ireland 2040

Climate Action Fund

28 November 2018

On completion of the Assessment Stage of the First Call for Applications for support under the Climate Action Fund, the following seven projects have been approved as eligible for support by the Minister for Communications, Climate Action and Environment, Richard Bruton T.D.

These projects will now proceed to the Validation Stage of the process. Projects that do not satisfactorily complete this stage will not progress to be supported by the Climate Action Fund.

Organisation / Lead Applicant	Project Name	Maximum Support Approved
ESB eCars	ESB Electric Vehicle High Power Charging Infrastructure Development Project	€10,000,000
Gas Networks Ireland	GRAZE Gas – Green Renewable Agricultural Zero Emissions Gas	€8,474,340
Irish Rail	Hybrid Drive for Inter City Railcar (ICR 22000) fleet	€15,000,000
Dublin City Council	Dublin District Heating System	€20,000,000
South Dublin County Council	The South Dublin County Council Tallaght District Heating Scheme	€4,447,952
Road Management Office	Local Authority Public Lighting Energy Efficiency Project	€17,470,000
3 Counties Energy Agency CLG	Driving HGV Efficiently into Brexit	€1,373,400
	Total	€76,765,692

Roinn Cumarsáide, Gníomhaithe ar son na hAeráide & Comhshaoil
Department of Communications, Climate Action & Environment

Type	GBER Article	Eligible Costs	Maximum Support
Enabling undertakings to go beyond Union standards for environmental protection	36	Extra investment costs necessary to go beyond the applicable Union standard	40% of eligible costs
Energy Efficiency Measures	38	Extra investment costs necessary to achieve the higher level of energy efficiency	30% of eligible costs
High-efficiency cogeneration	40	Extra investment costs	45% of eligible costs
Renewable Energy	41	Extra investment costs necessary to promote the production of energy from renewable sources	30% of eligible costs
District Heating (production plant)	46	Extra investment costs compared to conventional production plant	45% of eligible costs
District Heating (distribution network)	46	Investment costs	Eligible costs less operating profits
Local infrastructure (including electric vehicle charging networks)	56	Investment costs	Eligible costs less operating profits

Thank You

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