



Energy Efficiency First – Practical Implementation

CA-EED Plenary

INFO7.5 'Energy efficiency first'

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Fergus Sharkey

Head of Business and Public Sector SEAI

Agenda

1. Energy efficiency first, SEAI context
2. Non-Domestic examples
3. Domestic examples
4. Conclusions and future trends

Energy efficiency first – SEAI context



SEAI Context

Our Vision

Ireland's energy will be sustainable, secure, affordable and clean. To achieve this vision, Ireland must:

Use less

Energy efficiency offers the cheapest and most immediate opportunities to reduce import dependence, reduce emissions, and bring social and economic benefits to all energy users.

Use clean

Fully exploiting all our local renewable sources, in a socially and environmentally sustainable way, must be a central pillar of our energy future. We have an opportunity to move towards meeting all our energy needs through our own clean resources.

Innovate

We must develop new approaches to our sustainable energy transition from technological, economic and social perspectives. We have a mandate to support research, innovation and enterprise, while developing evidence-based responses that engage all stakeholders.

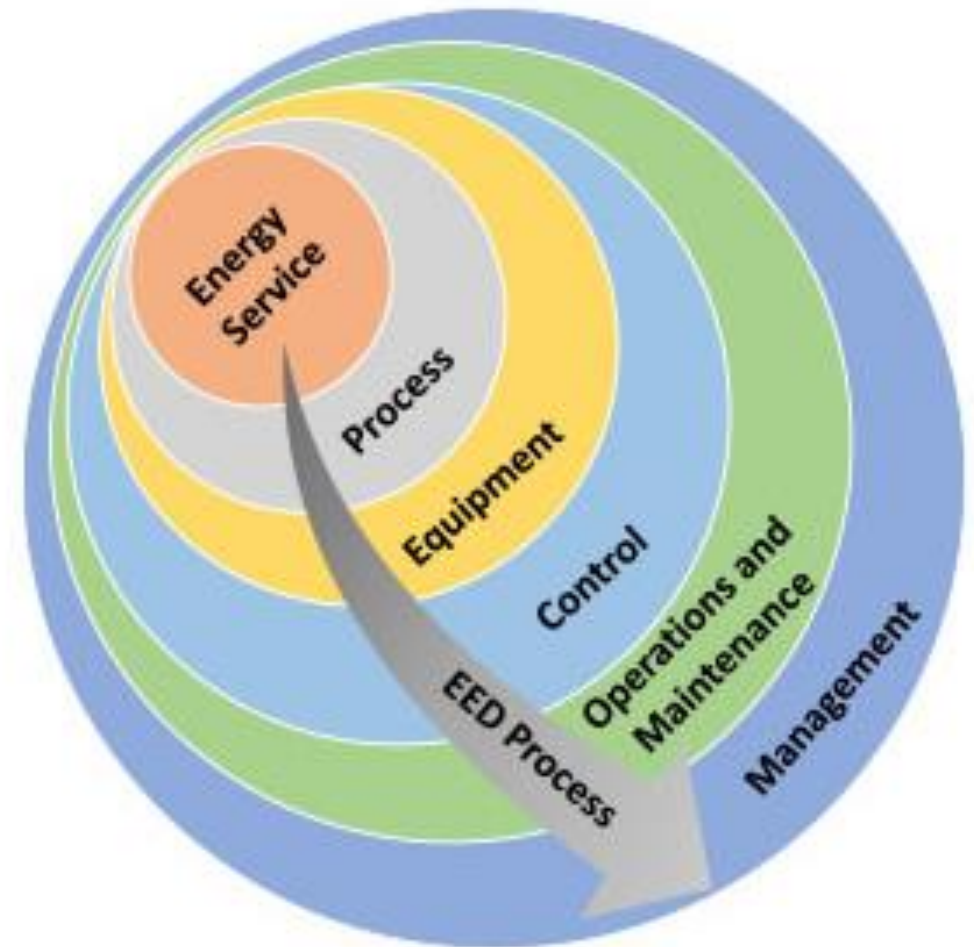
- SEAI is Ireland's national sustainable energy authority, working with householders, businesses, communities and government to create a cleaner energy future
- We work across all elements of the energy system, with a focus on built environment and industry energy
- Energy efficiency first (or fabric first) is a key pillar of our vision for Ireland's transition
- Implementing this within our programmes in a way that will create immediate and sustained delivery

Non-Domestic examples



SEAI EXEED (Certification and Grant)

- Requires a comprehensive **Energy Efficient Design** approach (as per I.S. 399) to the evaluation and selection of measures in both new and refurbished assets
- Evaluates energy using equipment from an energy service level through to O&M and ongoing management
- Energy Efficiency first built-in deeply to scheme operation
- Ensures high performing buildings and challenges design norms
- Covers projects across Design, Commissioning and Operational phases to ensure EED impacts are maximized AND maintained



Support Scheme for Renewable Heat

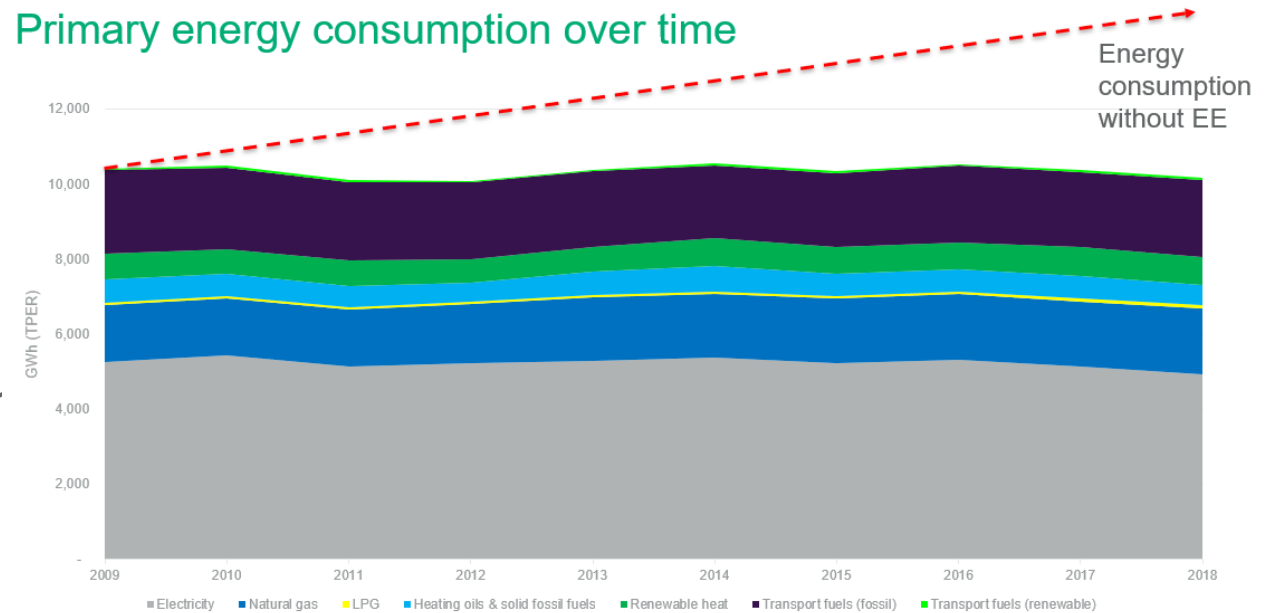


- Support through investment aid (Heat Pumps) or operational aid (Biomass/Biogas) for space and process heating
- Energy efficiency first principals
 - Heat pumps require a minimum building fabric performance (or EXEED certification)
 - Biomass systems require achievement of a benchmark demonstrating energy efficient heat demand

Public Sector Programmes

- Support to embed energy management (ISO50001) and develop and implement energy efficiency / decarbonisation plans
- Support scheme to grow retrofit scale in schools, higher education, health, and central government
- Driven by policy targets
 - 50% Energy Efficiency Improvement
 - 50% CO2 emissions reduction
 - All public buildings to a BER B
- Energy efficiency key part of both suppressing demand (against activity growth) and retrofit philosophy (fabric first)

Primary energy consumption over time



Domestic examples



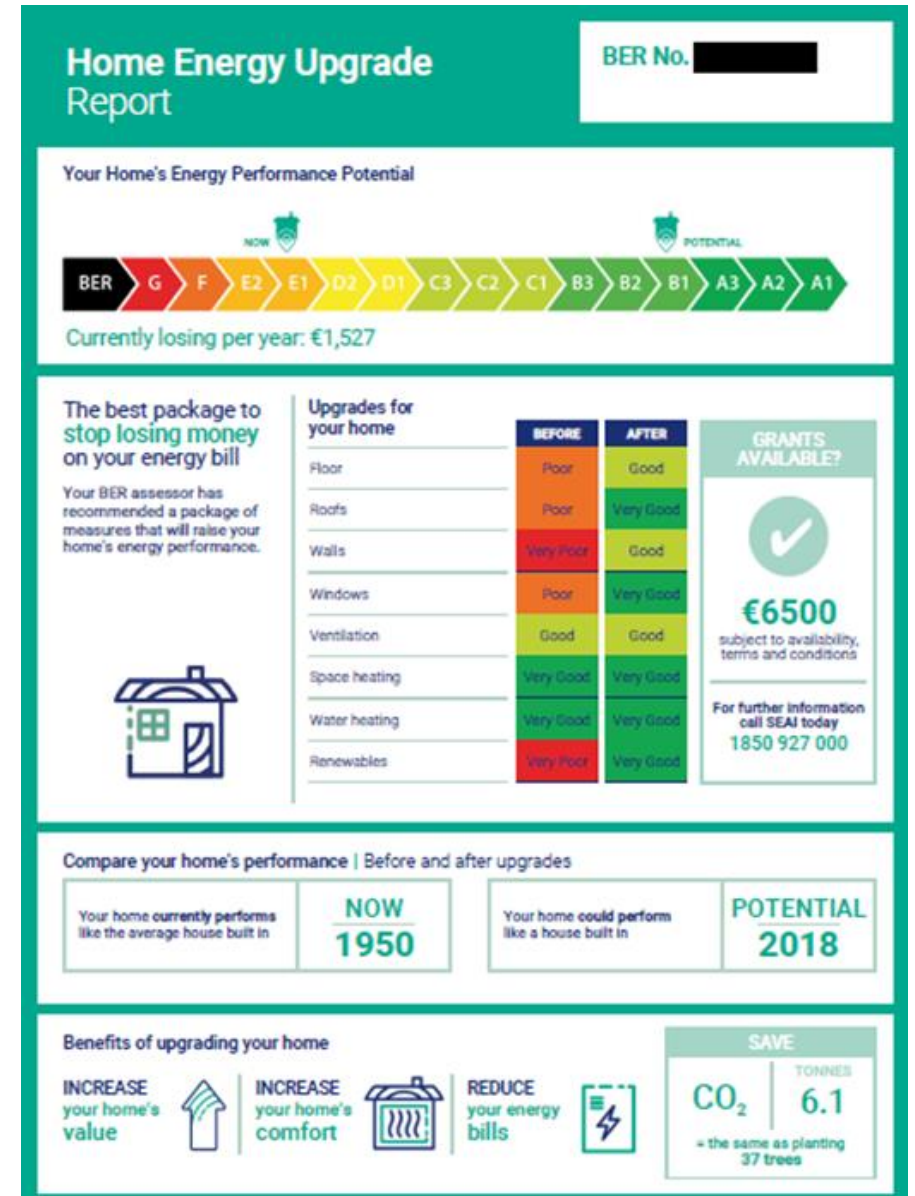
Domestic Solar PV Grant

- Grant support for domestic solar PV (and battery storage) up to 4kW
- Initially opened to any homeowner without any energy efficiency threshold (to grow and scale market)
- Evidence of installation of installation in poor energy performing homes (BER (EPC) D-G)
- Introduction of post-works BER C threshold from 2020
- Investigating multiplier effect – fabric first



BER (EPC) Advisory Report

- Building Energy Rating is Ireland's Energy Performance Certificate (per EPBD)
- Primarily an asset rating tool
- Domestic BER to include new advisory report
- Algorithm for assessing retrofit measures selects fabric first
- Warnings if thermal performance or renewable measures don't consider fabric
- Provides a fabric first roadmap for home retrofit



Conclusions and future trends



Conclusions and Future Trends

- Energy Efficiency First principles are a key pillar across SEAI programmes
- Approach for implementation can vary with learning feedback key
- Can sometimes be a difficult concept to communicate, and can be perceived as a 'barrier' to investment

- Future trends
 - Energy efficiency and decarbonisation priorities are 'blurring'
 - Move towards deeper retrofit of buildings and processes creates lag in the system, greater individual investments, and larger cost per kWh/tCO₂
 - Much more expertise and technical support required throughout delivery
 - Need to defend the basics of energy efficiency against wider climate asks