Business Models to support the energy transition

Learnings from the NOVICE Project

Jo Southernwood
Senior Research Engineer
International Energy Research Centre (IERC)

29 October 2020 – Sustainable Places 2020
NOVICE: New Buildings Energy Renovation Business Models incorporating dual energy services

This project has received funding from the European Union's Horizon 2020 research and innovation program under grant agreement No 745594

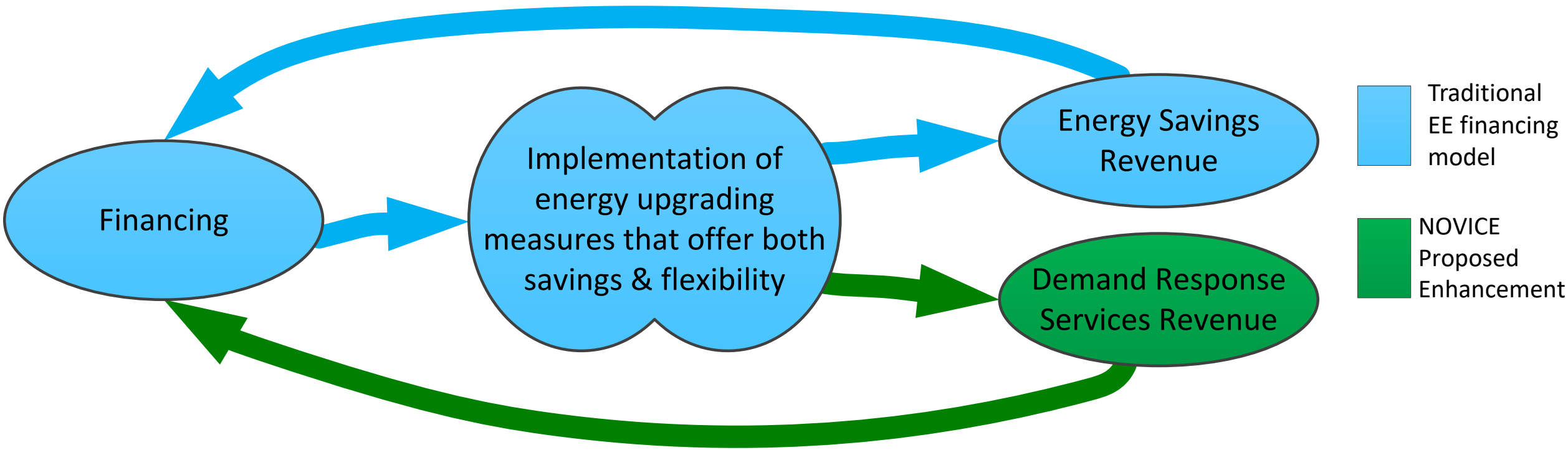
Setting the Scene

Innovative energy efficiency (EE) and demand response (DR) solutions already exist…

…but uptake and market penetration is low.

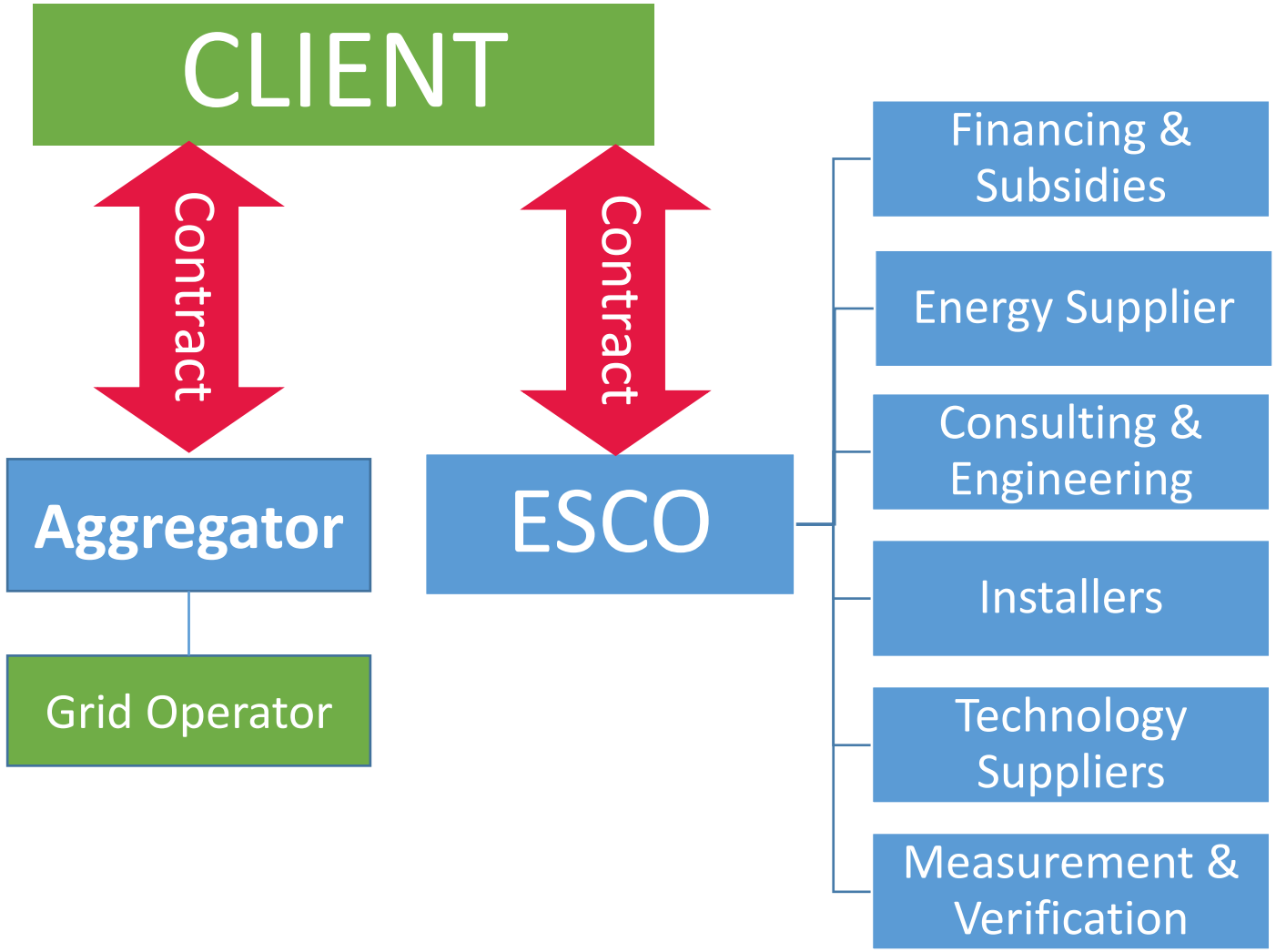
We need more compelling business models

NOVICE in a Brief



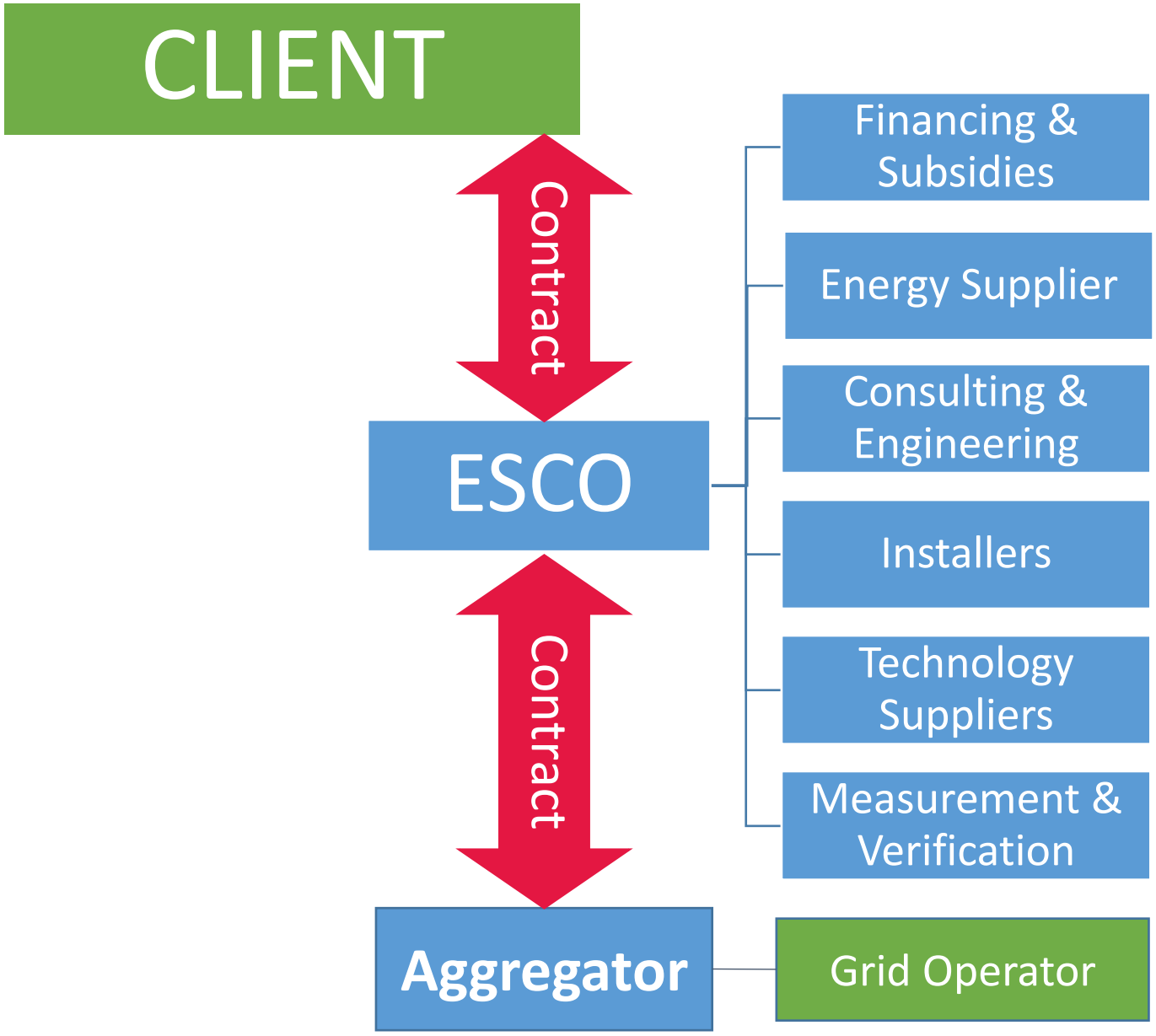
Traditional model

- ESCO handles all EE measures
- Demand Response Aggregator handles the flexibility potential
- Client must manage contracts with each party
- This can create conflicts e.g.
  - baseline discrepancies,
  - operational conflicts
  - contract breaches



NOVICE Approach

- The ESCO is the single point of contact with the client for all energy services.
- Contract covers EE and DR.
- A Memorandum of Understanding (MoU) governs the relationship between ESCO and Aggregator.
- Benefits
  - Shorter payback period
  - Consistent baselines
  - Operational consistency
  - Contractual certainty



Case Study

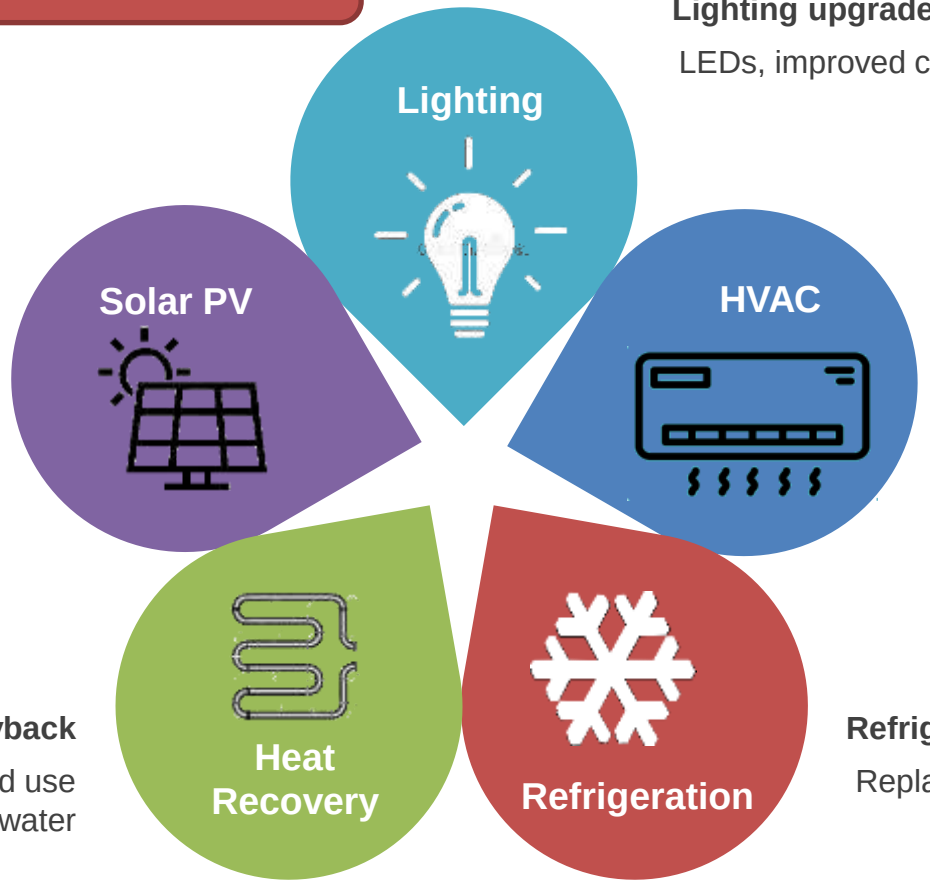
Case Study: Supermarket in Ireland

Energy Efficiency opportunities

11.8 yr payback

Lighting upgrade – 3.8 year payback

LEDs, improved control



Solar PV – 8 year payback

243 kWp rooftop PV array

HVAC upgrade – 4 year payback

Minor repairs and improved control

Heat recovery – 6 year payback

Recover heat from refrigeration and use to preheat domestic hot water

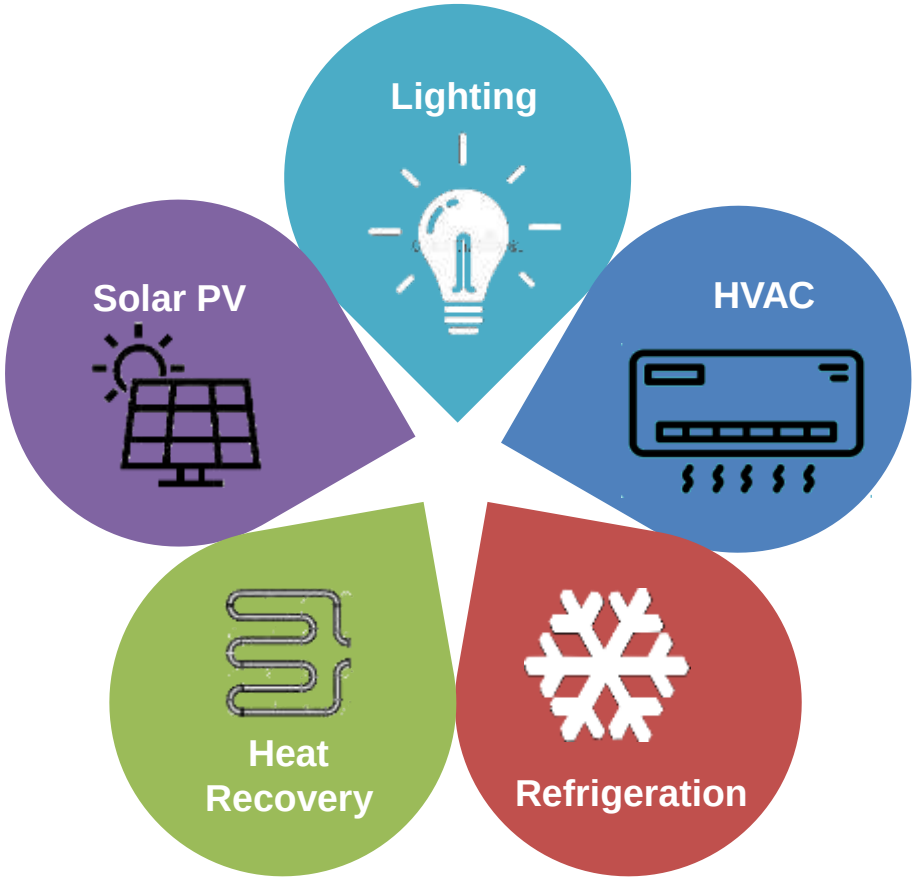
Refrigeration – 27 year payback

Replace refrigerant gas, improved control

Case Study: Supermarket in Ireland

Energy Efficiency + Demand Response opportunities

9.8 yr payback

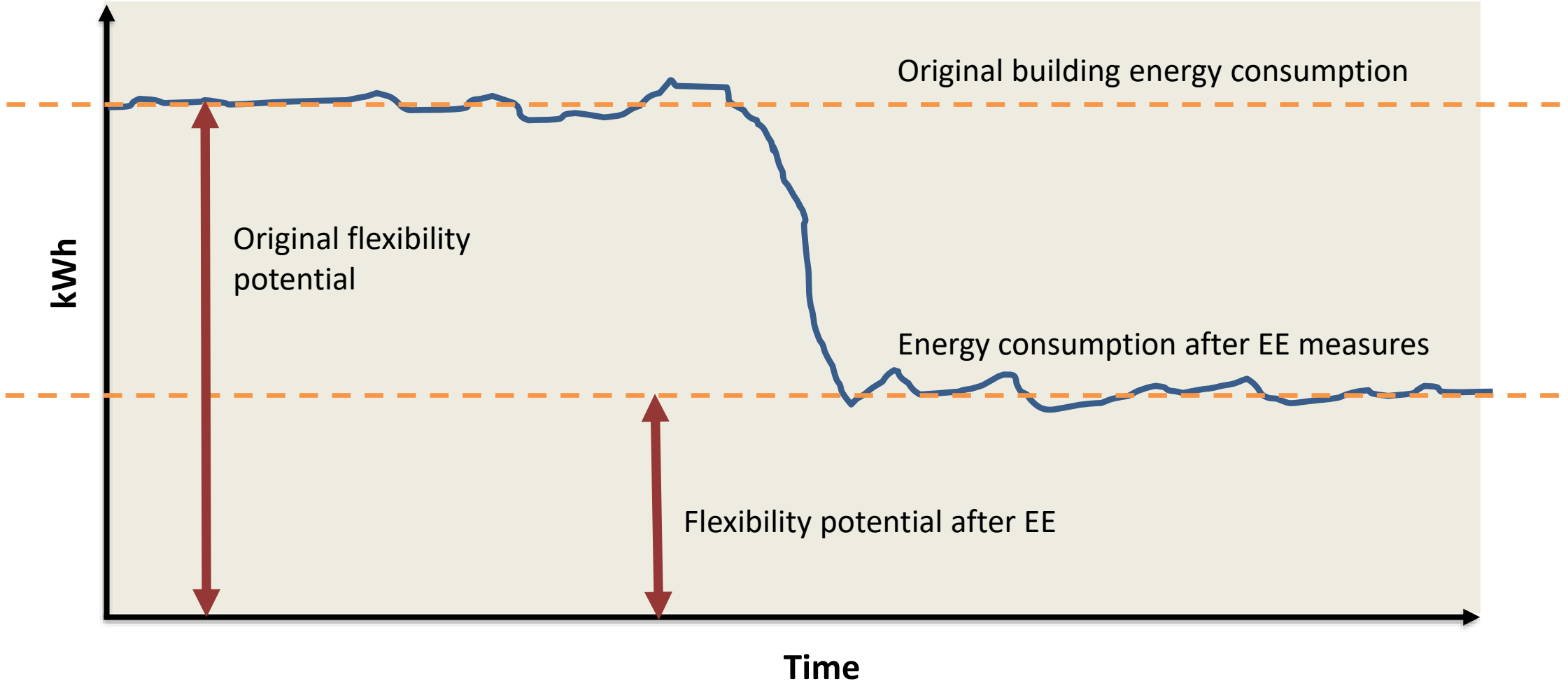


HVAC + refrigeration
+ backup generator
+battery storage

Payment
32,000 €/year

ESCOs and Aggregators:
Common or Conflicting Interests?

ESCOs & Aggregators: Conflicting interests?



ESCOs & Aggregators: Common interests!

Benefits of the dual services approach include:

- Access to new, untapped markets
- Unique selling point in a crowded/growing market
- Added value for clients
- Shorter contract lengths (ESCO)
- Lower cost of sale (aggregator)
- Increased asset value and occupant comfort (Building owner)

Both aim to maximise revenues from building energy assets

Key messages

1. Business models that **accelerate uptake of flexibility services** are needed – NOVICE is one option.

2. **Combining energy efficiency with flexibility** can improve the business case for whole building retrofit projects.

3. ESCOs and demand response aggregators should consider **working together**.

Thank you!

Jo Southernwood
International Energy Research Centre
jo.southernwood@ierc.ie

novice-project.eu

www.linkedin.com/company/25175684

@Novice_Project

This project has received funding from the European Union's Horizon 2020 research and innovation program under grant agreement No 745594