

EnPC in Ireland – Success, Challenges and Solutions

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



Codema Team

- **Energy Advisers** to Dublin Local Authorities
- **Founded in 1997** as **not-for-profit** organisation
- **32 staff** based in Temple Bar





Our Services



**ENERGY
MONITORING &
MANAGEMENT**



**ENERGY
AWARENESS**



**ENERGY
POLICY &
PLANNING**



**PROJECT
MANAGEMENT**



**MATCH
FUNDING**



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 696040.



- **Facilitators** of Energy Performance Contracts (10 years' experience)
- Providing **Training** of EnPC Project Facilitators



Success in the Irish Market

1. **Standardized EnPC contract templates and supporting procurement documentation**
 - SEAI developed a standard contract and set of supporting procurement documentation for the Irish market (approximately 10 years ago)
 - One of the key reasons we succeeded in developing our first project





Success in the Irish Market

2. Support for project Facilitators – grant support and peer to peer

- Energy Performance Contracting Support Scheme
- (<https://www.seai.ie/business-and-public-sector/business-grants-and-supports/energy-contracting/support-scheme/>)

Contract type	Funding level
Performance Guarantee (EPG)	Up to 75% funding to a maximum of €25,000
Energy Performance Contract (EPC) / Local Energy Supply Contract (LESC)	Up to 75% funding to a maximum of €50,000



Success in the Irish Market

3. Training programs for EnPC project Facilitators

- Codema developed a 2-day Facilitator Training course on behalf of SEAI (delivered 3 times to date – 50 attendees)
- Attendees are potential facilitators and customers
- Shorter course aimed a senior management in development





Success in the Irish Market

➤ Training programs for EnPC project Facilitators

Course Overview:

1. **Module 1:** Identifying EPC project opportunities
2. **Module 2:** Selling the added value of EPC & presenting the business case to EPC Clients
3. **Module 3:** Evaluating and managing risk
4. **Module 4:** Project financing & Financial Evaluation
5. **Module 5:** Legal and contractual requirements for EPC and guaranteed savings
6. **Module 6:** Procurement of EPC
7. **Module 7:** Measurement and Verification
8. **Module 8:** Conclusion and Register of EPC facilitators

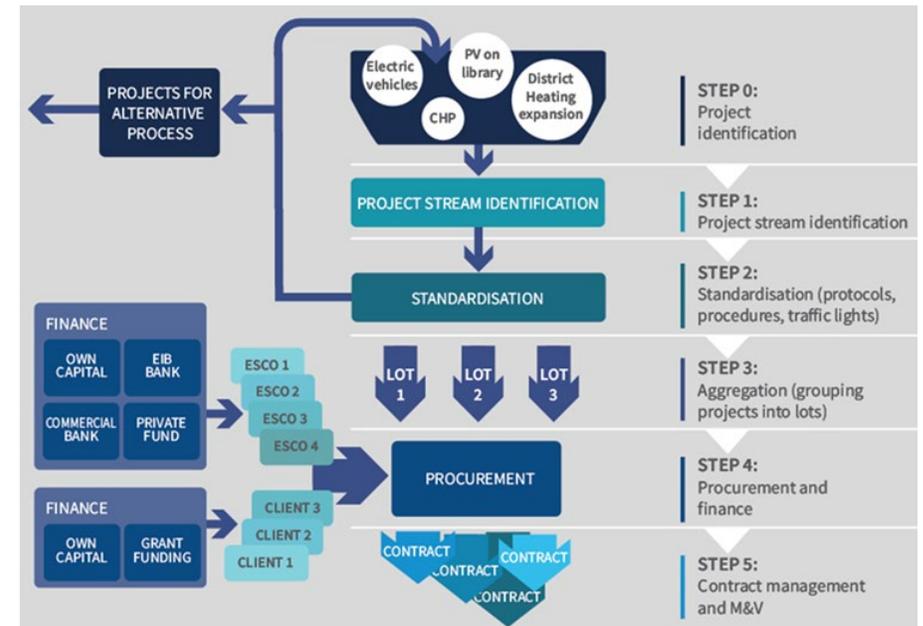


Success in the Irish Market

4. Quality Control – Structure and certainty for ESCOs

DeliveREE project

- 'One stop shop' Project Implementation Unit
- **Standardises** project development
- **Aggregates** Projects
- Uses **Performance Contracts**
- Facilitates **Private Finance**
- *Bid compensation for unsuccessful ESCo*





DeliveREE Project

- **H2020 Project Development Assistance** project
- Focused on the **facilitation** of projects using **EnPC**
- **Overall Project Aim:**
 1. Create a **Project Implementation Unit** and **scalable delivery model** that can be replicated across Ireland and Europe
 2. Deliver **9 signed** Energy Performance Contracts: Value **€20.4m** (**€10.2** from **private finance**)

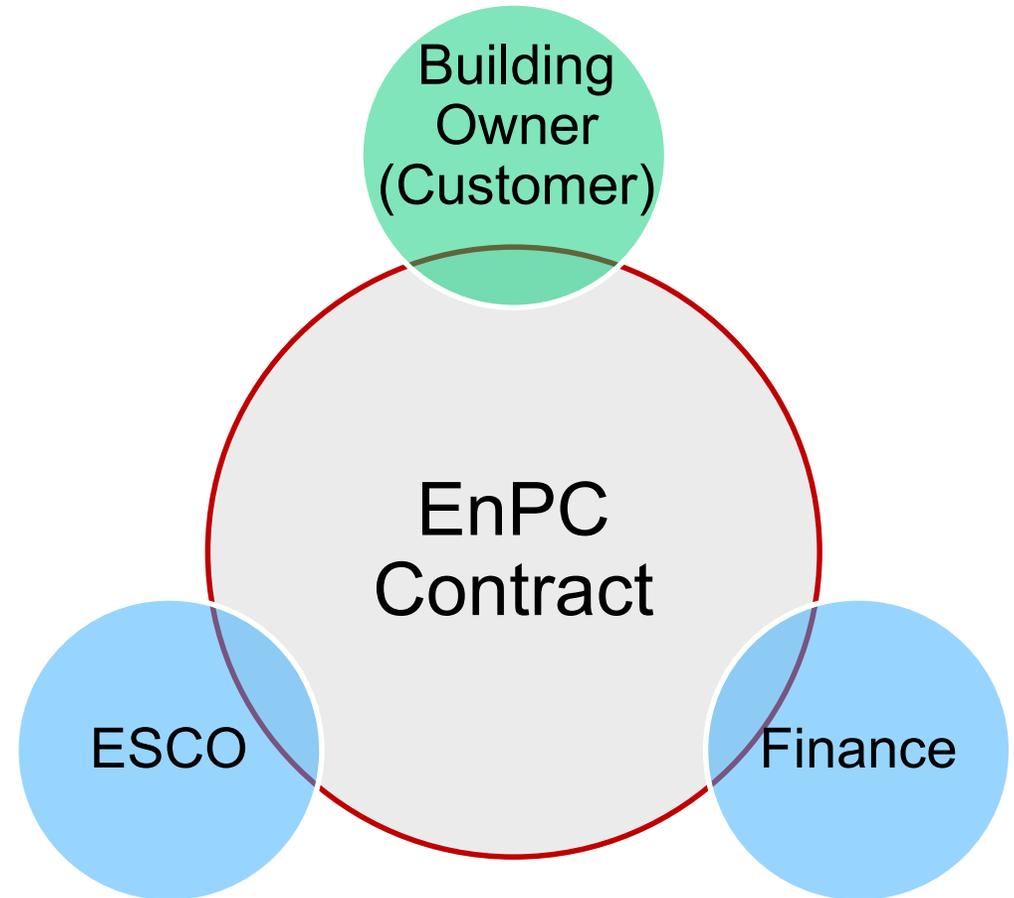


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The Challenges?

- It's a mix of:
 - Market **growth**
 - **Contractor** (ESCo) engagement
 - **Supply** and **demand**
- The **current EnPC product** on offer is **not what the customer needs**





What is the **current EnPC product**?

Joint Research Commission:

- Energy Performance Contracting (EPC) is a form of **'creative financing'** for capital improvement which allows **funding energy upgrades** from cost reductions

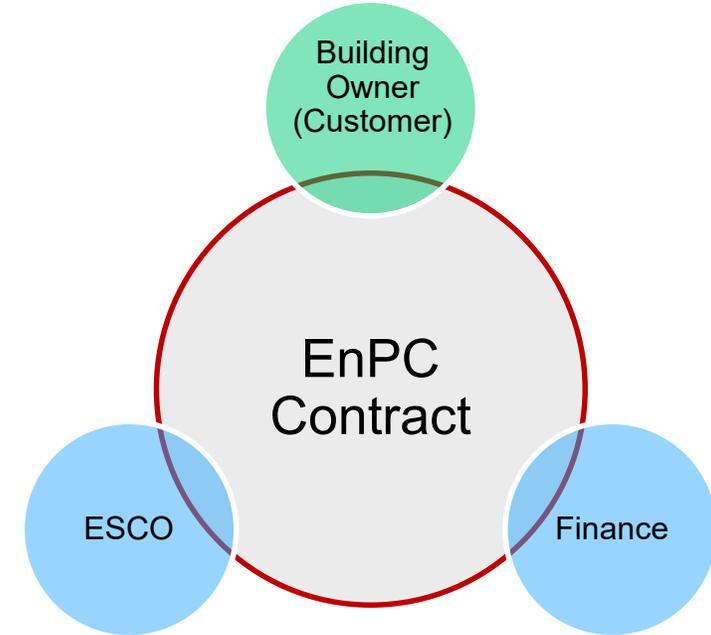
International Energy Agency:

- Under ESPCs, a private sector Energy Service Company (ESCO) is contracted to **design, purchase, and install the necessary equipment** and processes to increase energy efficiency at the facility
- The focus is on **finance and new equipment**



What is EnPC?

- A typical EnPC contract has two parts:
 - 1. Works** (months)
(Design and Build)
 - 2. Services** (years)
(Operate and maintain)



- The current product is largely focused on the **Design and Build**
- But what the **customers needs** is a much greater focus on the **Operation and Maintenance** of their building (existing and new equipment)



The Challenge for the **Building Owner** ?

- **Safe**, comfortable low carbon **environment** for **employees and occupants** (public or private)
- Want to **reduce energy decarbonize** buildings, but how?
 - **Deep retrofit?** Expensive, disruptive (close building, move business), complex decision (**many factors must align**)
 - **Do what they can** – individual measures (PV, lighting, heat pump.....)
- **Why use EnPC?** *“We can get our own finance and we don't want to give away all the savings”*





The Performance Gap



<https://www.gov.uk/government/publications/low-carbon-buildings-best-practices-and-what-to-avoid>

- Innovate UK - Building Performance Evaluation Programme over **five years**
- **50 low energy design buildings (nZEB)** funded by Innovate UK
- Performance **gap** averaging **3.5**



Performance Gap

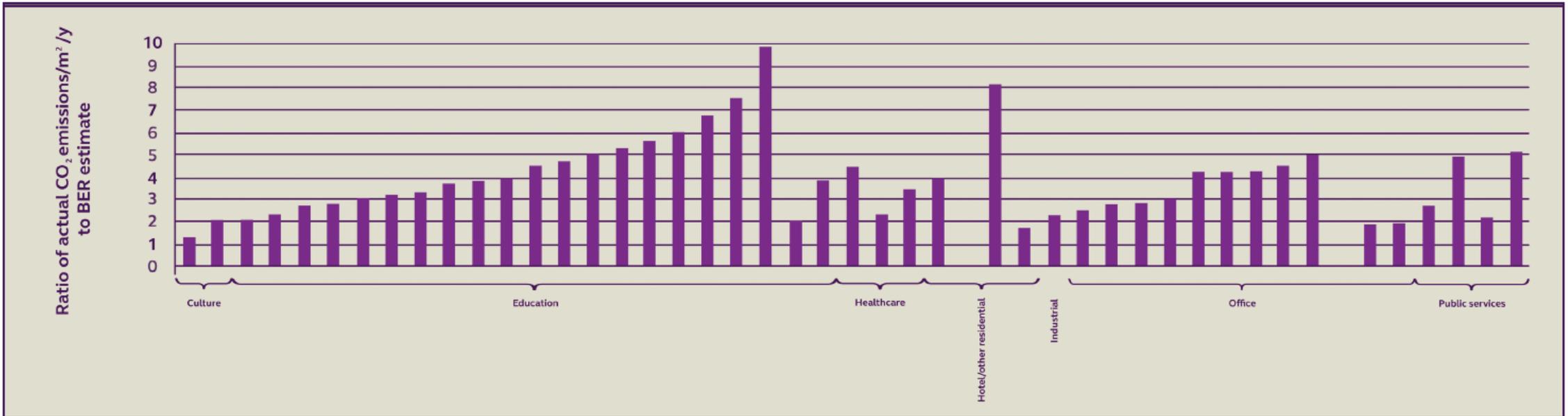


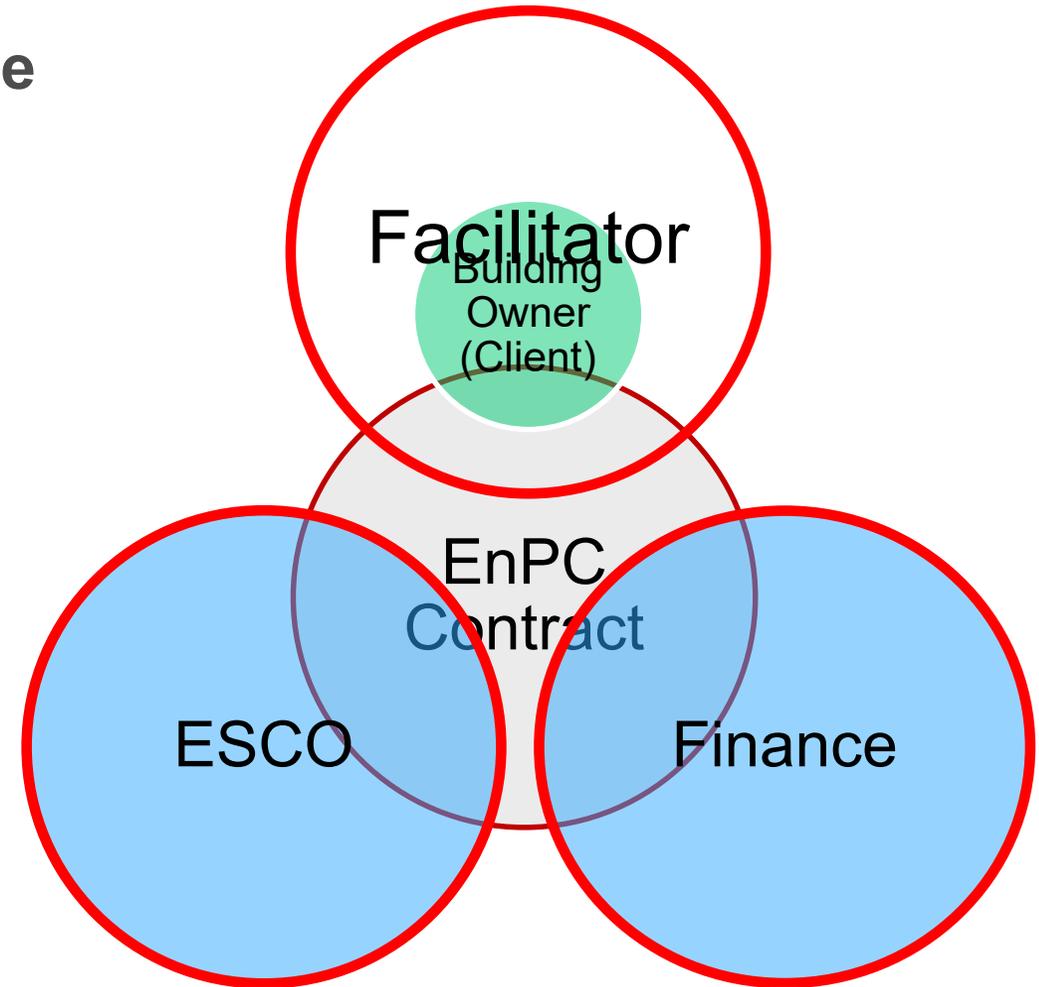
Fig. 2: Actual CO₂ emissions are almost always higher than the BER predicts (Carbon Factors: Electric 0.55kgCO₂/kWh, Gas 0.194kgCO₂/kWh, Oil 0.265kgCO₂/kWh, District heating 0.265kgCO₂/kWh, Biomass 0.025kgCO₂/kWh, from BRUKL). NB: Zero-rated buildings against one hotel and one office project are projects with CO₂ data but no BER.

<https://www.gov.uk/government/publications/low-carbon-buildings-best-practices-and-what-to-avoid>



What is the **Solution**?

- We need to **re-frame** the **EnPC** message
- Focus more the **needs** of the **building** owner
- What are **their** real **needs** and **drivers**?
 - **holistic** solutions (existing and new)
 - **value** for money (performance **guarantee**, **risk** sharing)
 - **simplify** a complex task
 - **one face** to the customer
 - **Renovation Roadmap to Zero Carbon**





Renovation Roadmap to Zero Carbon

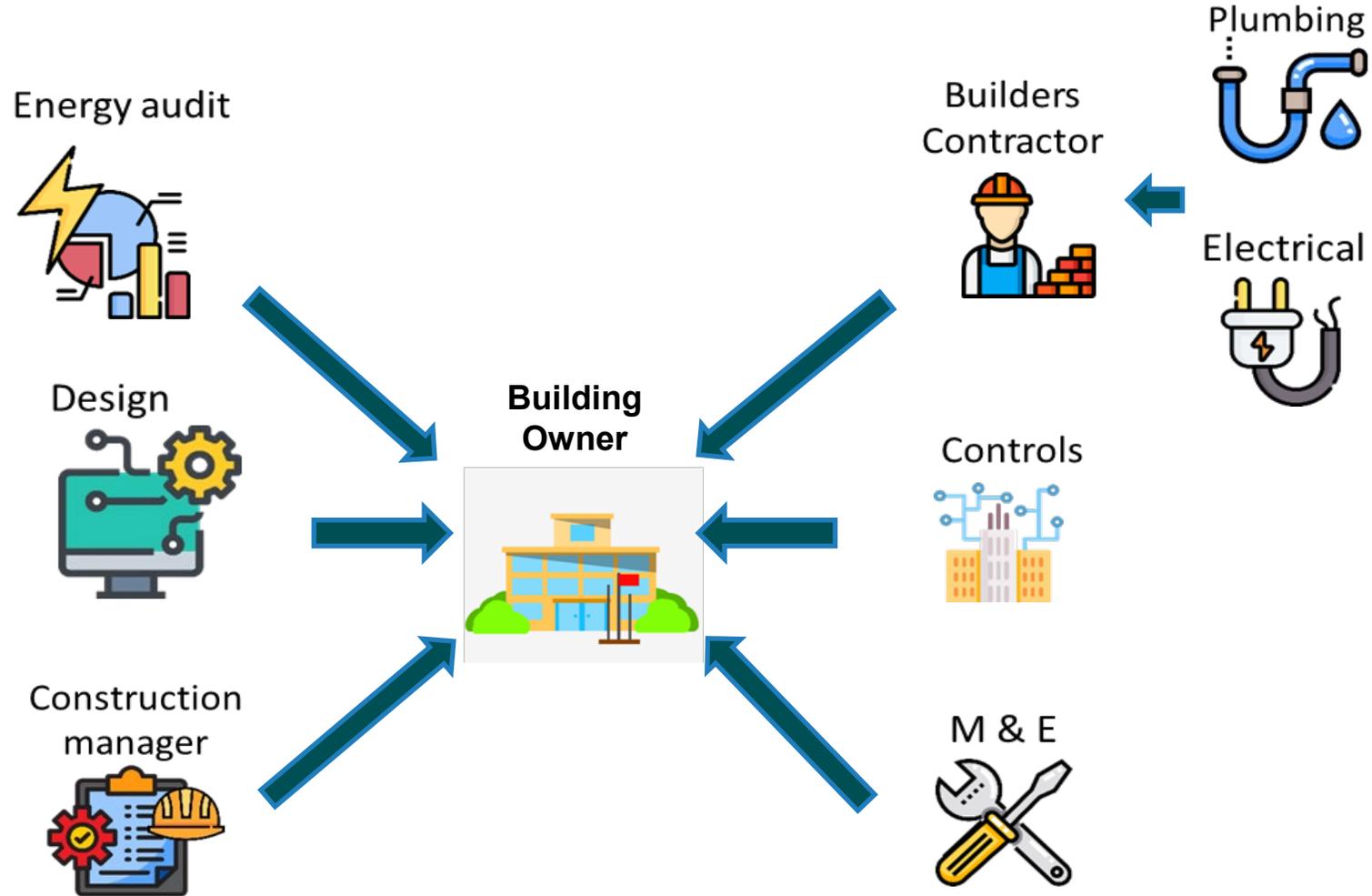
An Energy Performance Contract:

- Provides the contract structure for a planned, phased decarbonization of our buildings
- This allows for the **phasing out of existing assets** (boilers, CHPs, etc.) that may be relatively recent installations and have a structured plan for replacement
- **EnPC contractor** (or ESCo) can prepare an **implementation plan** with the building owner so that a **structured investment plan** put in place
- Single **procurement** competition!





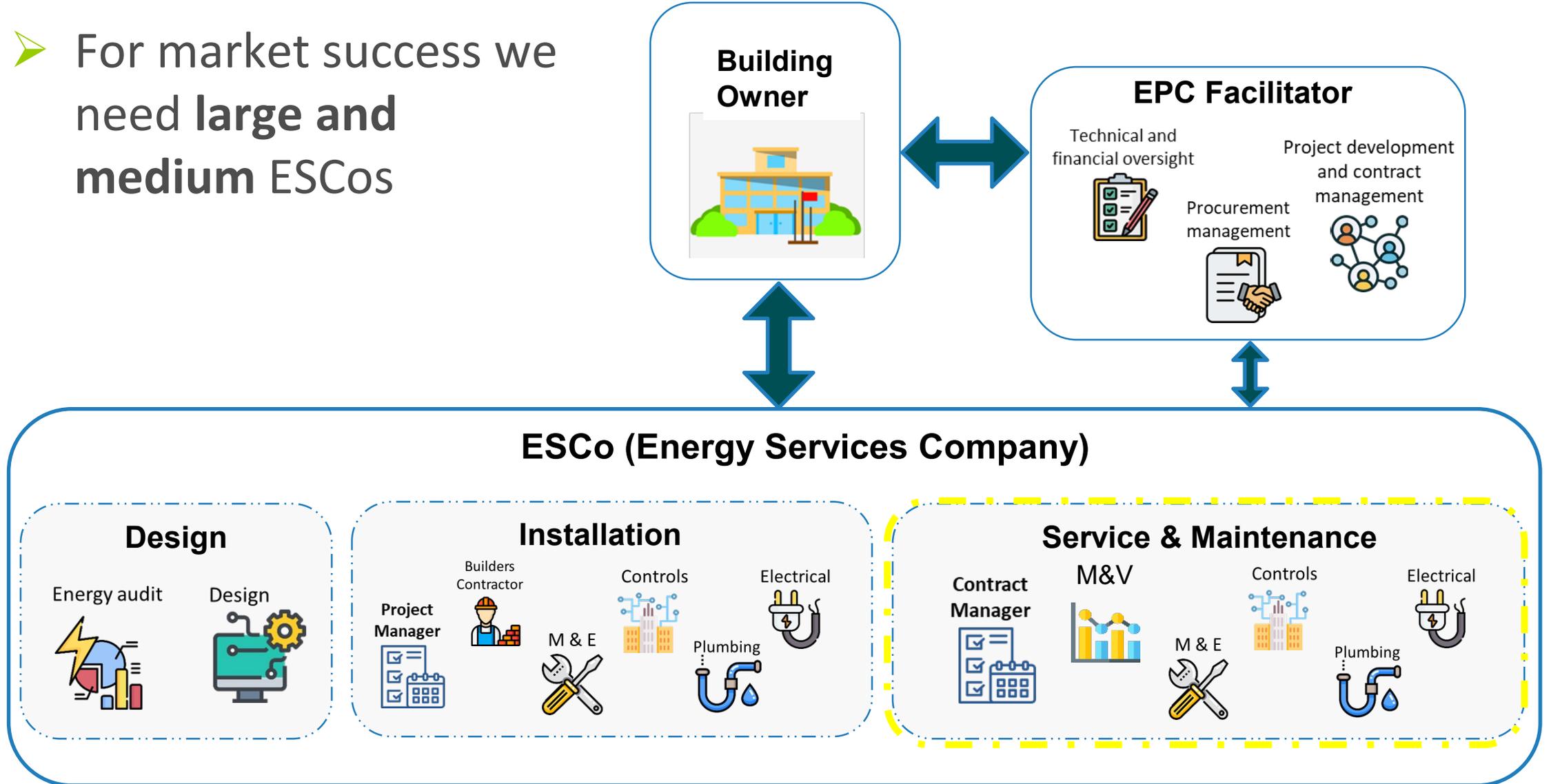
Business-As-usual





EnPC - Design-Build-Operate-Maintain

➤ For market success we need **large and medium ESCos**





The Solution? – EnPC 2.0

1. Build upon the **renewed focus on EnPC in the directives** (no longer just about finance)
2. **Reframe the EnPC message** (from the building owner perspective)
 - Contracted renovation roadmap or pathway to Zero
 - Whole building energy system performance and maintenance (close the performance gap)
 - Building owner needs – safe, comfortable, low carbon, efficient building
 - Guaranteed, de-risked energy performance, value for money
3. **Reframe the ESCo**
 - Include M&E, building and maintenance contractors
 - Reduce the investment burden on the ESCo, focus on the performance guarantee

Thank You

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