

EP CONNECT

 ESCO-in-a-box[®]

Smart Cities Marketplace

City Wisdom case study: ESCO-in-a-box




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10th November 2021

ESCO-in-a-box in a nutshell

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-  A new operating system for delivering de-risked, impactful energy-saving projects for businesses
-  ESCO Partners establish a local one-stop-shop and recruit local contractors to deliver projects
-  Fee-earning services allow the ESCO to reach break-even in 2-3 years



ESCO-in-a-box has been developed with the support of the **Department for Business, Energy and Industrial Strategy**, as part of the BASEE (Boosting Access for SMEs to Energy Efficiency) programme.



Department for
Business, Energy
& Industrial Strategy



The problem

The UK is legally bound to reach **net zero by 2050**.
So far **57 local authorities** have committed to net zero across their entire region by 2045 or earlier, some as early as 2030

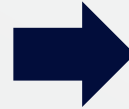
UK100

74% of UK local authorities have declared a Climate Emergency, but reaching net zero is not easy: it means engaging local businesses

There are **£5.8bn** of short-payback energy efficiency projects locked away in UK SMEs

Many energy efficiency programmes are based on unsustainable grants

There is an urgent need to upskill suppliers for the low carbon economy



ESCO-in-a-box is a proven way to engage businesses and help them move towards net zero by implementing energy efficiency projects



A local ESCO can unlock these savings, boosting profitability, growth and resilience



ESCO-in-a-box is a self-sustaining business model from which profits can be reinvested

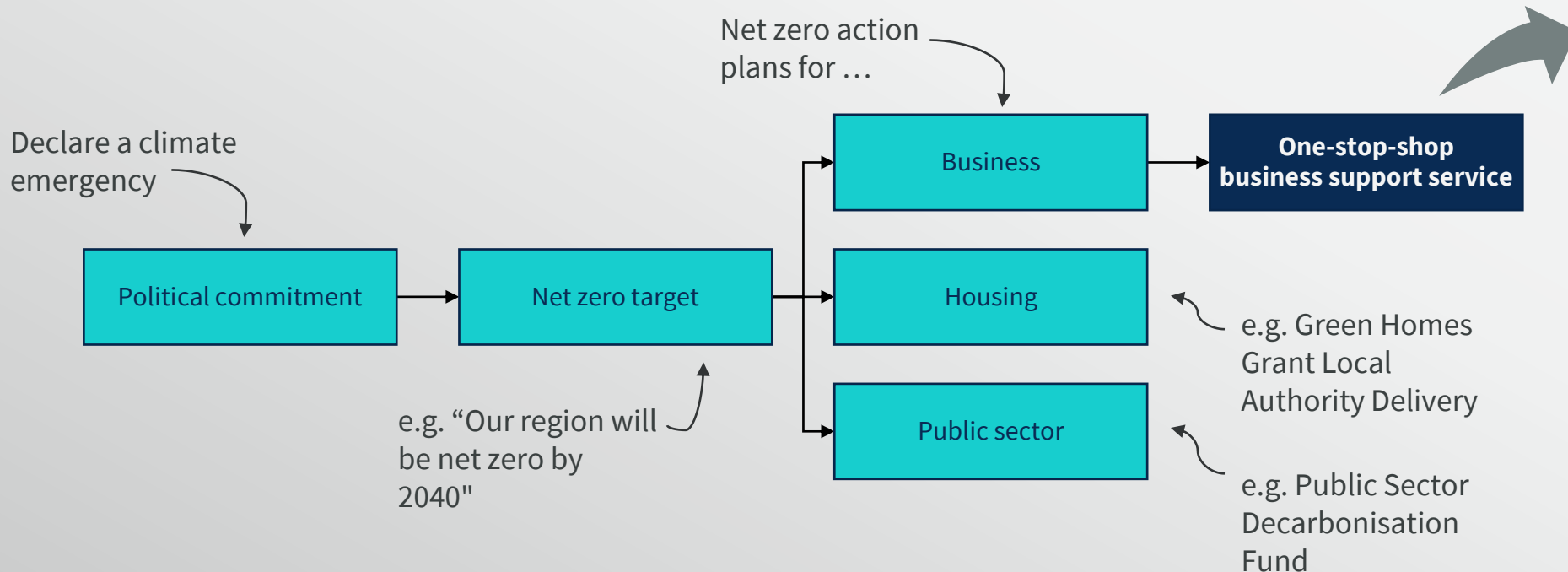


ESCO-in-a-box harnesses the local supply chain to upskill them & provide a pipeline of projects

The solution

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- 🕒 Councils, supported by LEPs, need plans for reaching net zero across the local economy: this means **reducing emissions while growing the economy**
- 🕒 ESCO-in-a-box provides the foundation of a unit to deliver business decarbonisation
- 🕒 It provides 'one-stop-shop' net zero support to businesses. It delivers projects that reduce emissions, increase profitability and increase resilience.
- 🕒 This boosts local economic recovery, protects and creates low carbon jobs.



- Deliver efficiency and clean energy projects:
 - Emissions reductions
 - Cost savings => improve profitability
- Employ local contractors:
 - Create a local low-carbon pipeline
 - Sustain and create local jobs
- Engage businesses for the long term:
 - Help them play their part
 - Support them all the way to net zero

 ESCO-in-a-box®

Community energy organisations in the UK developed renewable projects generating **154.4 MW** in 2019

This has been made possible by:

- appealing to people's values
- thinking local
- standards and clear pathways for investing in and developing projects

We want to do the same for energy efficiency





Global problems, local solutions

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**National and international
best practices...**



**Local & community
organisations are key to
business energy savings**

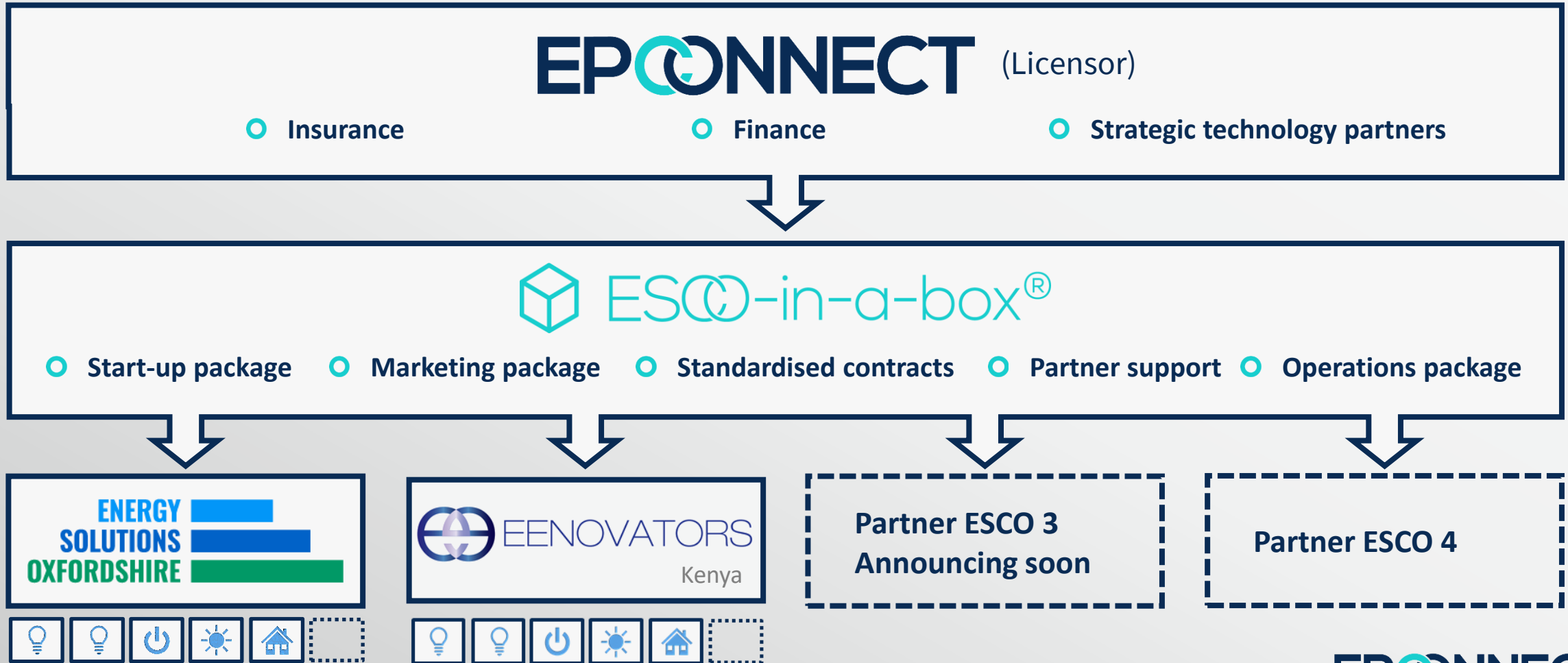
└ Delivering energy services that work for SMEs is difficult,
requiring new skills, systems and relationships.

ESCO-in-a-box can help **└**

How ESCO-in-a-box[®] works

An operating system for energy services companies

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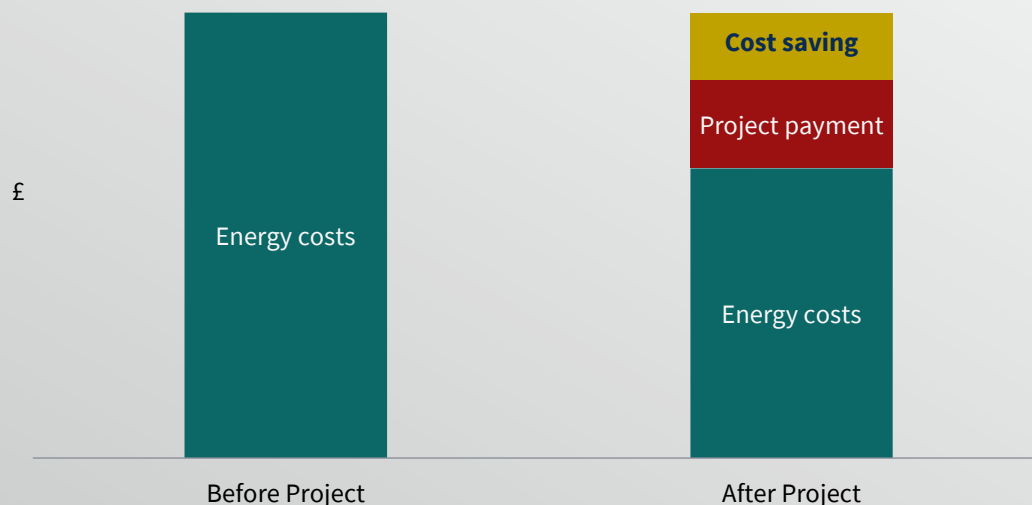


Making ESCOs work

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In principle, EE finance is pretty simple

- Energy efficiency project reduces energy bills
- Cost savings are used to pay back the project costs over time
- Result: a cash-neutral or cash-generative project that's also good for the planet







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So what's the catch?

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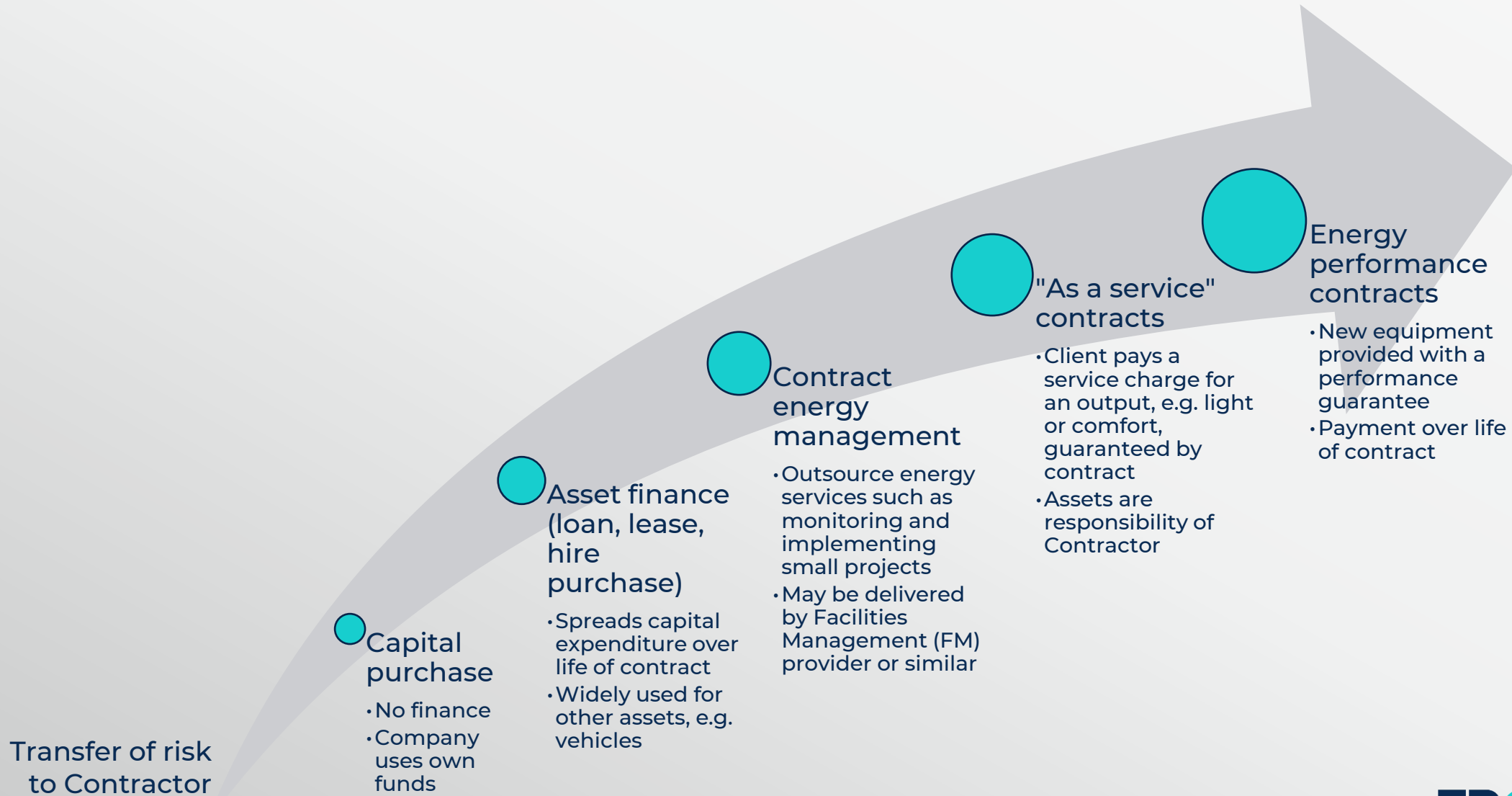


-  What if I don't achieve the savings? Who bears the risk?
-  Where does the money come from?
-  How do I know I'm getting a good deal?
-  How is the finance secured?



Various finance options are possible

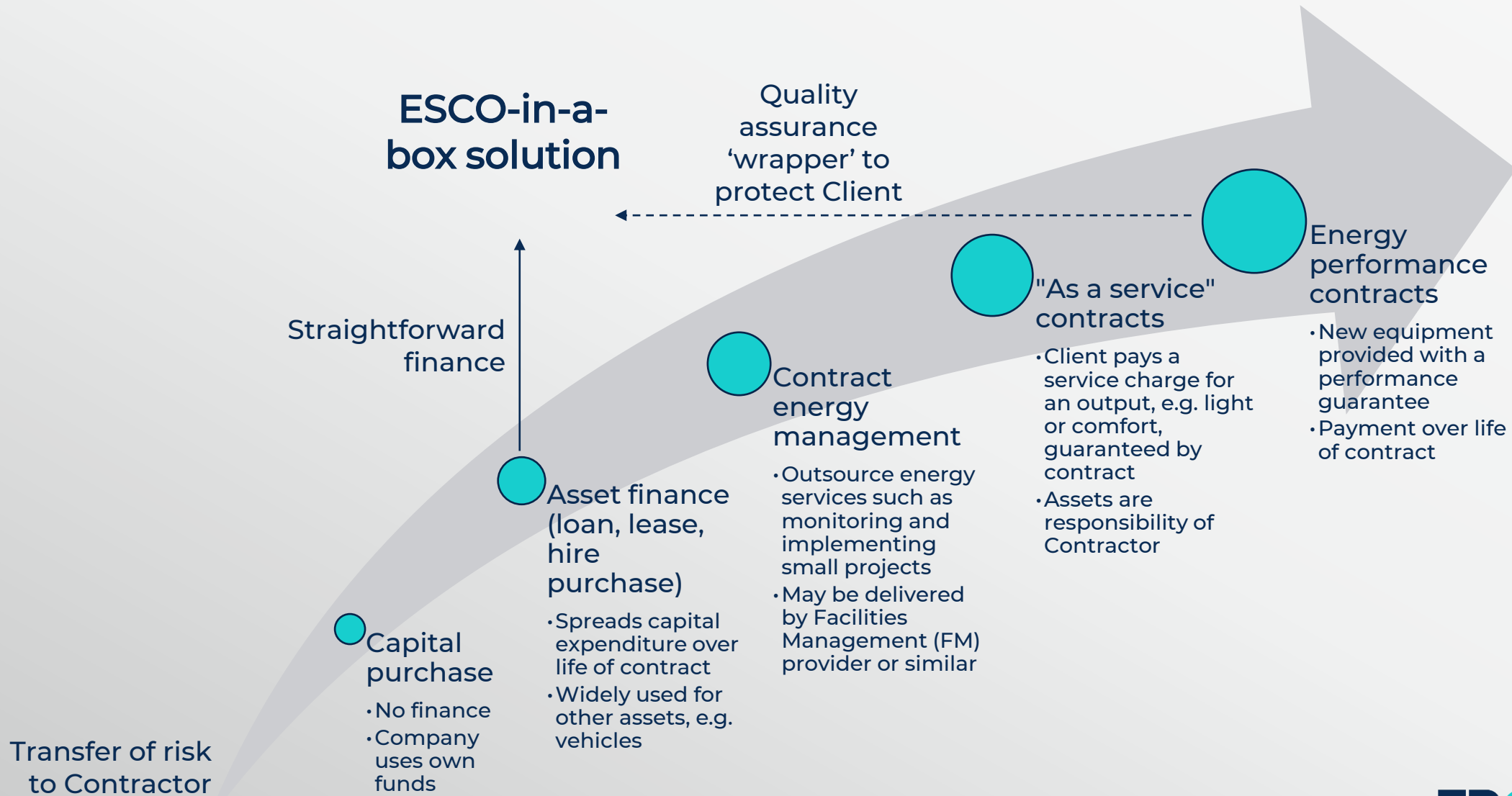
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Access to finance via ESCO-in-a-box

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How a project might work

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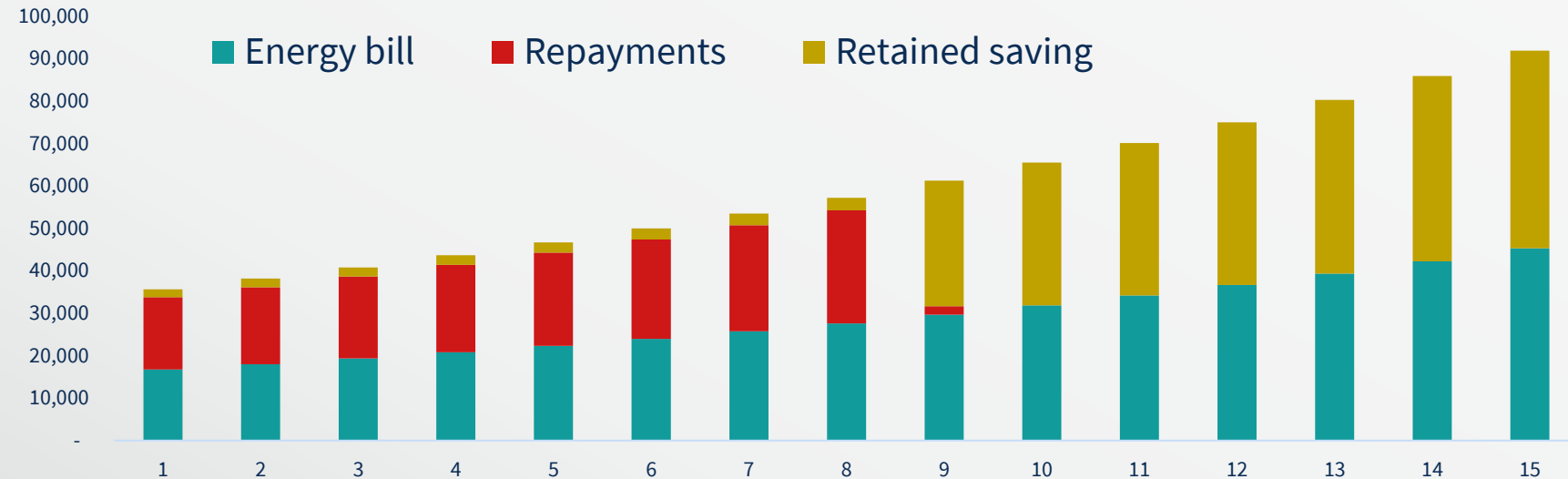
Develop the project

- Arrange finance
- Investment Grade Audit
- Guaranteed saving



Manage delivery

A financed energy efficiency project



● Completion testing and sign off

● 1-year savings verification

● Operations and maintenance support until end of contract

● Collateral warranty for equipment



Whatever the funding source, ESCOs must assure and demonstrate the savings

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Finance providers
are looking for...

- Reliable contractors



Approval and QA of delivery contractors

- High quality installation



Experts inspect and certify works

- Certain returns



Assure and demonstrate energy savings
through transparent M&V



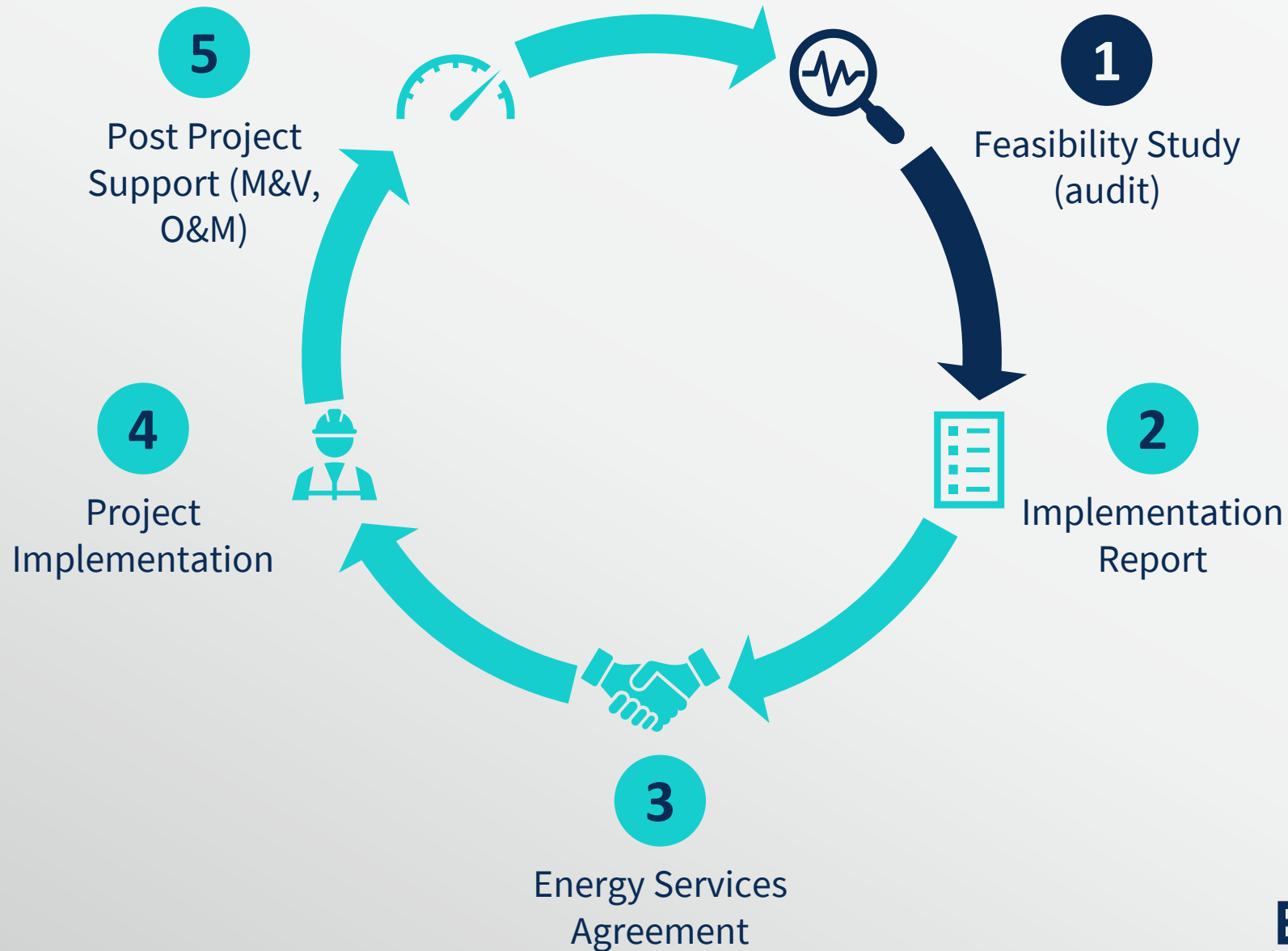
Developing the process

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ESCO-in-a-box client journey





The ESCO-in-a-box[®] package

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EPConnect provides licensees with personalised service to create a local ESCO as well as guides, templates, and software for every step of the process.

Startup

- Understand your **market**
- Develop a **brand**
- Establish an **ESCO**

Operations

- Workflow and CRM **software**
- **Template documents** for assessments, project development, contractor qualification, QA and M&V

Finance

- Connections to vetted national and local **lenders**
- Projects **aggregated** by EPConnect

Contracts

- **Standardised contracts** developed with legal experts

Support

- **Ongoing support** for the life of the Partner ESCO

Case study: Energy Solutions Oxfordshire

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 The first **regional one-stop-shop** based on ESCO-in-a-box

 Established late 2020 via BEIS grant, providing £0.4m working capital including c.£50k marketing budget

 A partnership between Low Carbon Hub (community energy organisation) and Oxford Brookes University

 Development and operations during 2020-21 informed design and content of ESCO-in-a-box

 Current target segments:

- Pharmaceuticals and science
- Medium-scale manufacturing
- Professional services
- Oxford colleges

 Team:

- Managing director
- Business development manager
- Marketing manager
- Energy assessor
- Data manager
- Technical / contractor manager






<http://www.energysolutionsoxfordshire.org/>








Case study: Energy Solutions Oxfordshire

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A pipeline of energy projects for Oxfordshire businesses (July 2021):

-  2,000 businesses reached in first year
-  98 opportunities in pipeline
-  34 active projects




Key technologies:

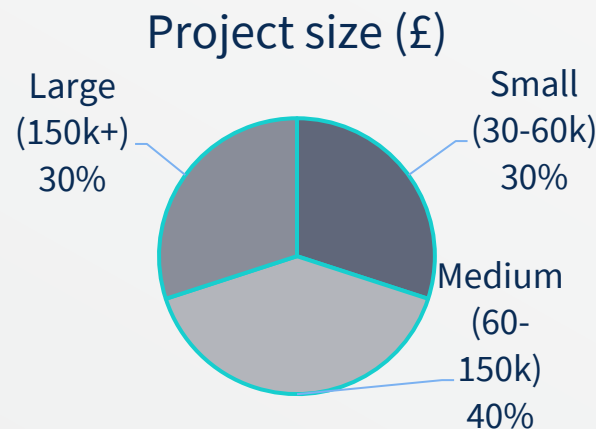
-  LED lighting (100% of projects)
-  Air source heat pump (78%)
-  Controls and building management systems (66%)
-  Solar PV (56%)
-  Wall insulation (44%)
-  Loft insulation (33%)
-  Double glazing (22%)

Creating projects for local low carbon suppliers:

-  25 approved contractors
-  73% headquartered within 50 miles of Oxford

Impact

-  Average annual savings for a single client: 134 MWh / £6,664
-  Total energy savings over five years: 25.5 GWh
-  Total avoided emissions over five years: 5.2 ktCO₂e



“We are keen to move our business to carbon neutrality but do not have a lot of knowledge or experience, so having a local service that can take us from start to finish and coming from such a great local project was very exciting to us.”

ESOX client

“The ESOx team were hugely supportive... which resulted in implementation of energy saving measures on our property which would not have been installed without their support.”

ESOX client

Targets

	2021	2022	2023	2024	2025
New projects	5	21	24	26	28
Cumulative projects	5	26	50	76	104
Revenue (£k)	76.0	191.0	421.5	641.8	795.8



Case Study: an AgriFood ESCO in Kenya

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- The ESCO is being developed through a partnership between EP Connect, EnSo Impact and **Eenovators**, funded by GIZ.
- The new ESCO takes a holistic approach to address the national strategic issues of food insecurity, energy costs and water scarcity.
- The ESCO has been addressing issues of youth unemployment, and a lack of low-carbon skills and gender equality across the region via the Young Energy Efficiency Professionals program.
- In discussions about creating a fund.

giz

EnSo  Impact



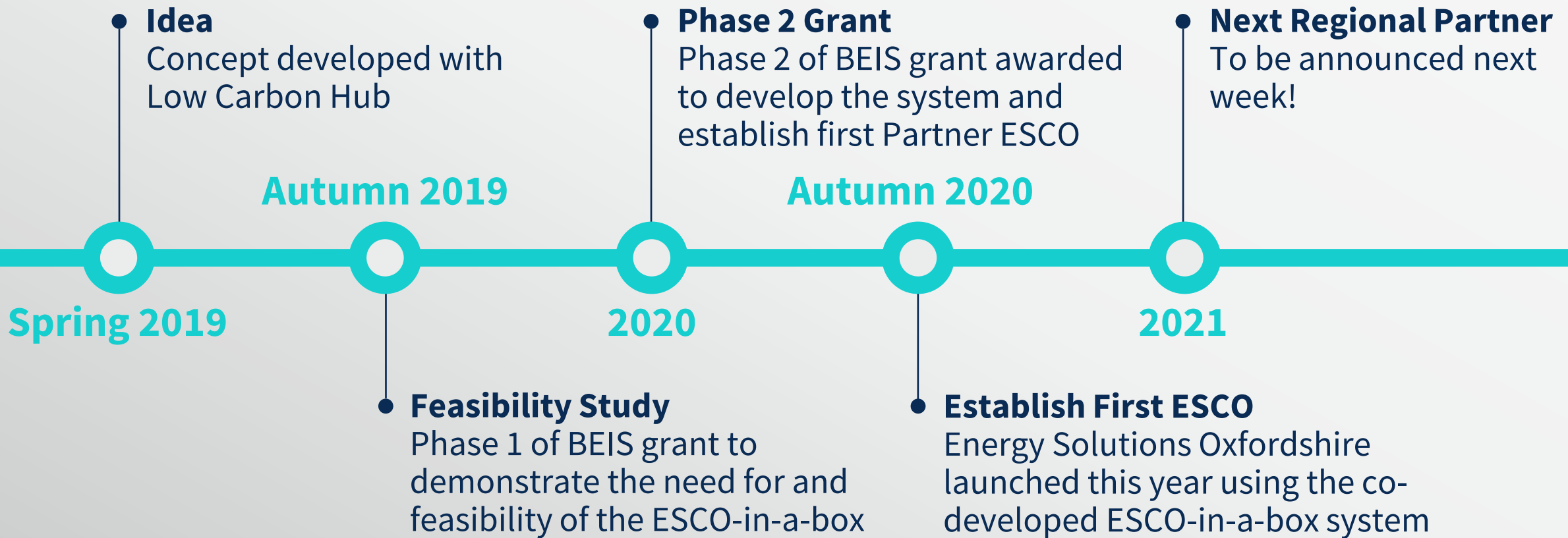
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Progress

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EPConnect has developed the ESCO-in-a-box through a systematic process of testing and refinement in order to deliver the best product.



 epconnect.energy

 [@escoinabox](https://twitter.com/escoinabox)

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