



## Efficiency as a Service

Plugging a new energy model



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## WHO WE ARE

BASE is a Swiss not-for-profit foundation and a Specialized Partner of UN Environment.

Our vision is a world where markets are transformed, and sustainable energy and climate change solutions are the norm, not the exception.

## WHAT WE DO

We develop innovative, actionable financial strategies and market-driven solutions to unlock investment in SE and to tackle climate change.

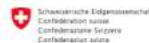
Around the world, we work with all markets and segments including those that are challenging and underserved.



# WHO WE WORK WITH

Partners are essential to our solutions.

- BASE works with a variety of players and acts as a bridge between the public and private sector.
- Our partners include: multilateral development banks, national banks, financial institutions, development agencies, intergovernmental and philanthropic organisations.





# Context

Climate mitigation in the EU

Energy demand projected to increase by 50% by 2050.



Renewable energy and energy efficiency offer 90% of mitigation measures to reduce.



End-use energy efficiency alone can deliver 35% of the cumulative CO2 savings by 2050.

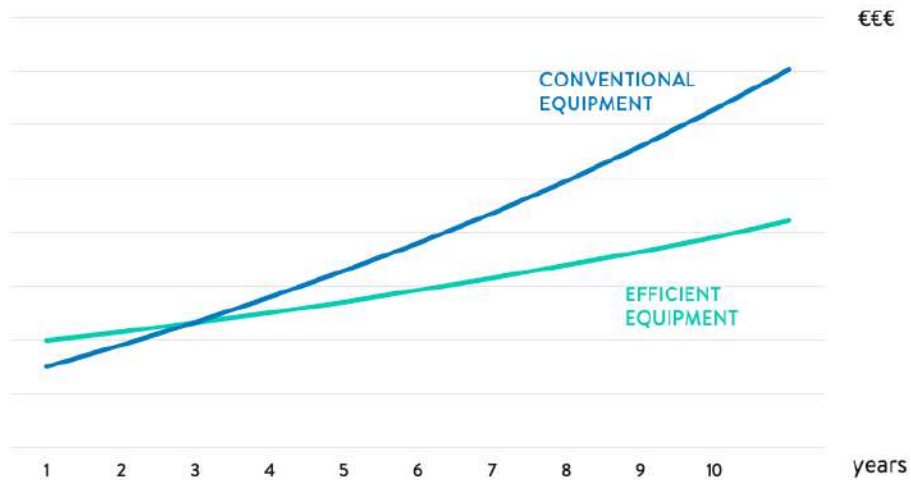
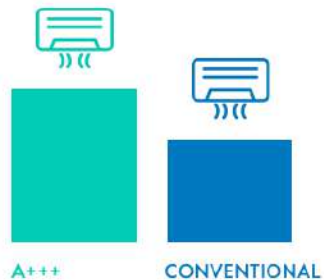


This will require USD 2.4 trillion annual global investment to stay below 1.5°.





# ENERGY EFFICIENCY



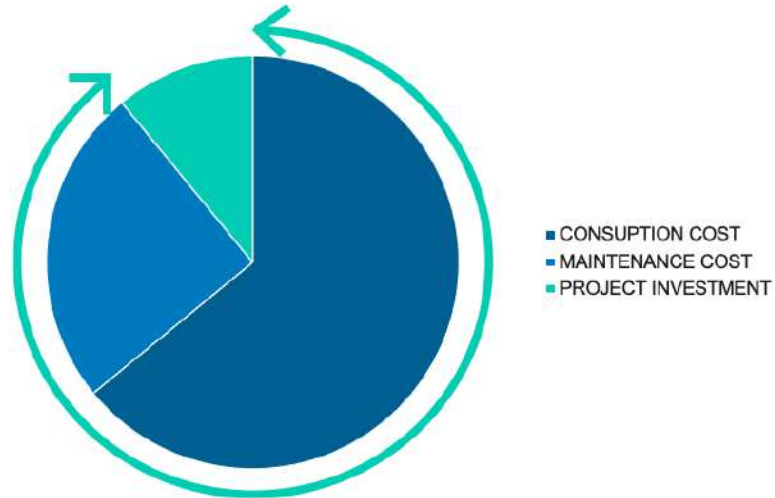


# ENERGY EFFICIENCY

A barrier identified is the high upfront cost of energy efficiency investments:

- Energy efficiency equipment are usually more expensive than average ones.
- The initial investment of the traditional system might be lower and more attractive to the client.
- Traditional equipment have a higher cumulative cost; it spends more energy.

CUMULATIVE COSTS

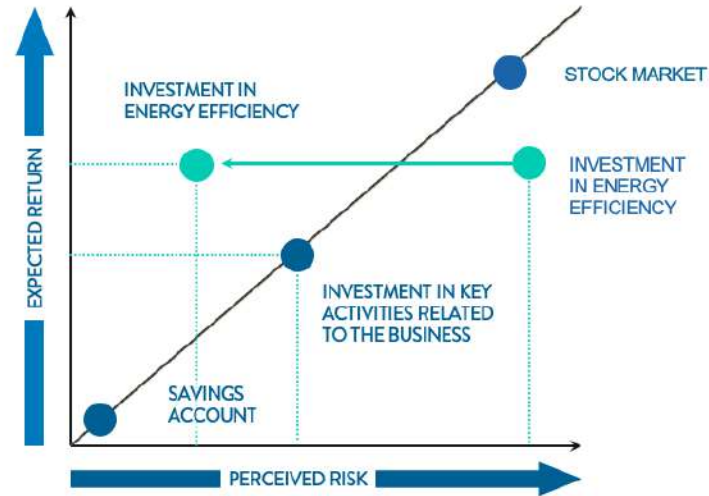




# ENERGY EFFICIENCY

A barrier identified is the risk perception on energy efficiency investments:

- Perception of high risk = high return expectation.
- Performance risk (technology, service, maintenance and logistics)
- Energy efficiency has a high risk-perception and cannot compete with other investment opportunities
- High need for Accessibility, Quality, Reliability, ROI, Safety and Climate Impact.







## Barriers to energy efficiency

- Higher upfront cost of efficient technology.
- Lack of trust in performance.
- Uncertain returns.
- Higher-risk perception.
- Prioritisation of investment in core business.
- Lack of maintenance skills.
- Complexity of novel technologies on integration (digitalisation, solar pv implementation, other)
- Limited financing options.

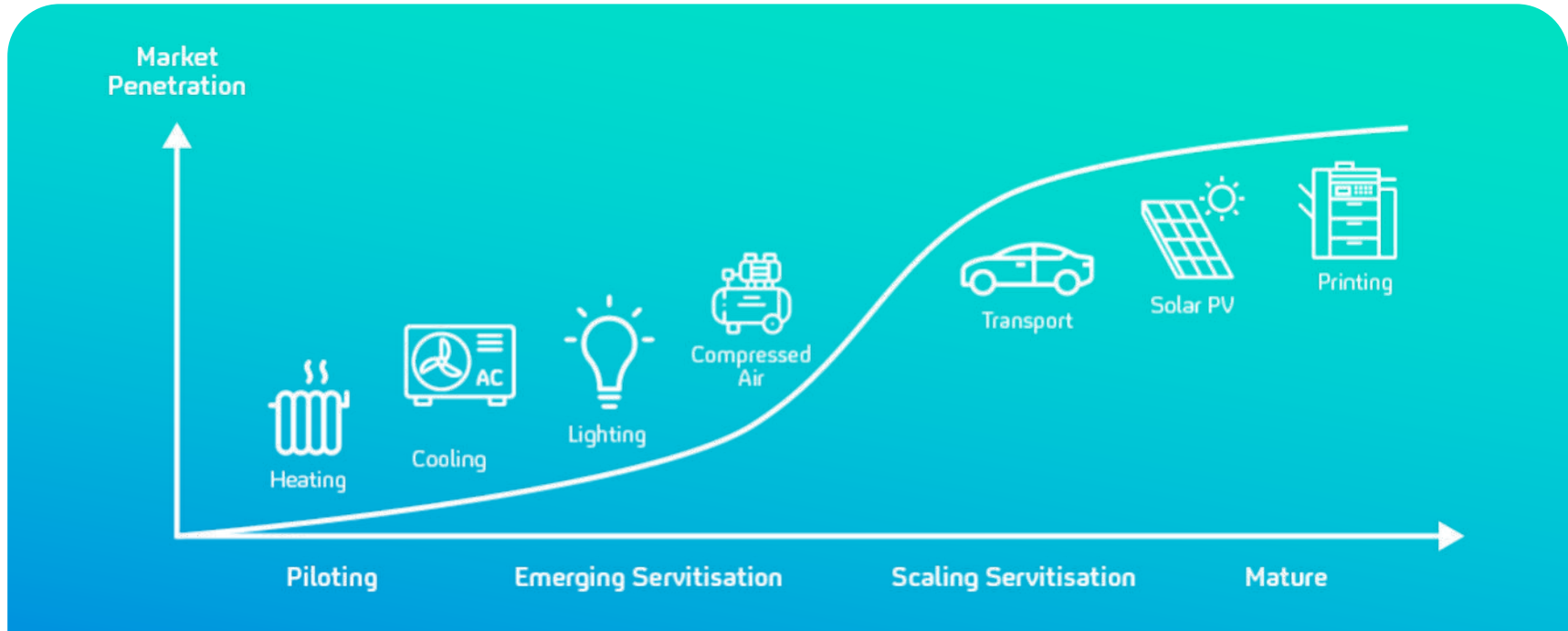






# The Solution: Servitisation

Efficiency as a Service



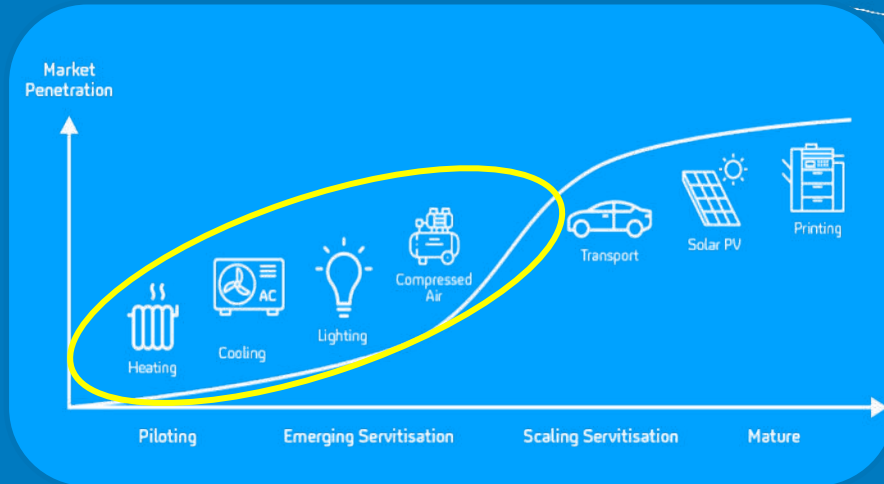


# Mainstreaming servitisation to scale climate impact solutions

- Pay-per-use model
- Providers own equipment: CAPEX to OPEX
- Targeting SMEs and large companies to implement EE solutions:  
Solar, Cooling, Heating, Storage, Lighting
- Overcome key market barriers



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# Business model

Example: Special Purpose Vehicle (SPV)

## Differentiation from similar models

<b>Instrument</b>	<b>Differentiation from EaaS</b>
Energy Service Company (ESCO) : Shared savings and guaranteed savings Energy Performance Contracting	Payments dependent on energy savings. Instead a EaaS payment is agreed in advance as a function of actual usage.
District cooling/ heating	District cooling/heating aggregates demand in large-scale systems. Instead EaaS can be applied to single buildings or real estate complexes.



# The Solution: Servitisation

Efficiency as a Service



## Innovative & Disruptive Business Model

- Innovative: brings value to consumers: Investment in new technologies (EE) because there is a business case for this.
- Disrupted every single industry it has gone into: Scale allows investment in R&D and making it simple for consumers.

## Aligning people, profit and the planet



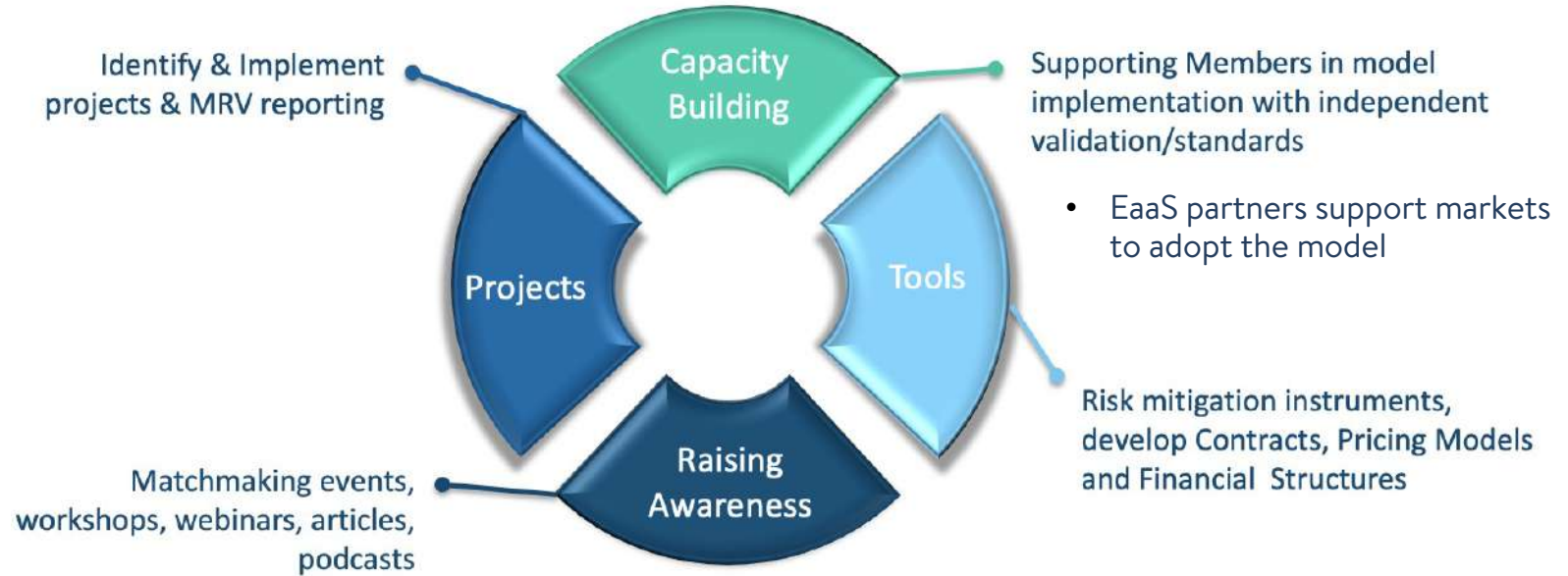
Key elements of the circular economy:

- Maximizing efficiency makes business sense for provider
- Maximize usage of equipment – scale brings mobility
- Maximize reusing of components – modular design



# The EaaS Project

An integral approach to implement the model





## Toolkit available

Register and download it!



### EaaS Explanatory Documentation

This power point presentation and fact sheet can be used as supporting documents to explain the Efficiency as a Service model.



### EaaS Contract and Risk Mitigation Guidelines

This model contract may need to be adapted to local regulations, but can serve as a good template to start implementing EaaS. It has been developed over the past year and includes input from a large number of experts.



### EaaS Economic Model

This economic model will enable you to price your cooling service, once populated with your technical and economical parameters.





# Benefits of EaaS

For customers, providers and financial institutions



## Benefits for customers

- No capital expenditure
- Reduced operating expenses
- Service is off-balance
- No more performance risks
- Full out-sourcing of service
- Customer can focus and invest in core business
- Decarbonise assets / SDG goals

## Benefits for technology providers

- Deploy full potential of technology
- Increase demand for energy efficient solutions
- Predictable and continuous revenue streams
- Unlock digitalization value
- Bringing additional value by selling outcome instead of selling equipment and parts
- Strengthen client relationship

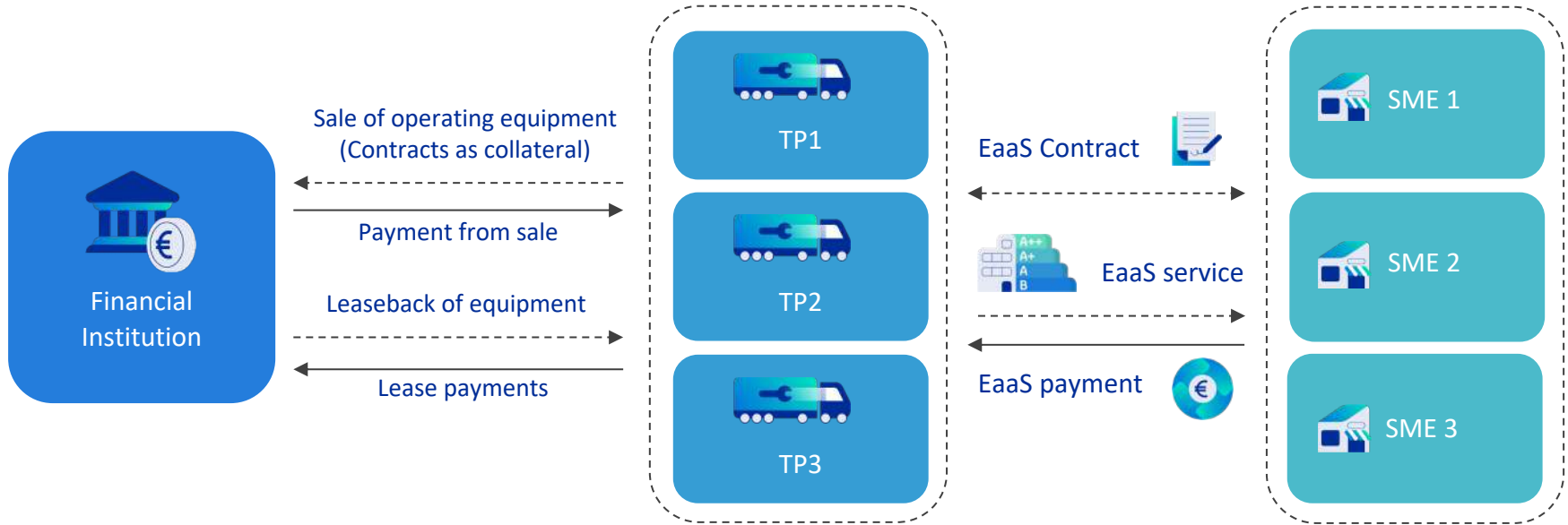
## Benefits for banks & investors

- Opportunity to place green funding
- Become front-runner to finance servitisation models (new trend)
- Investing in assets generating cashflows
- Sustainable finance services
- Decarbonise scope 3
- Data on impact



# Business model

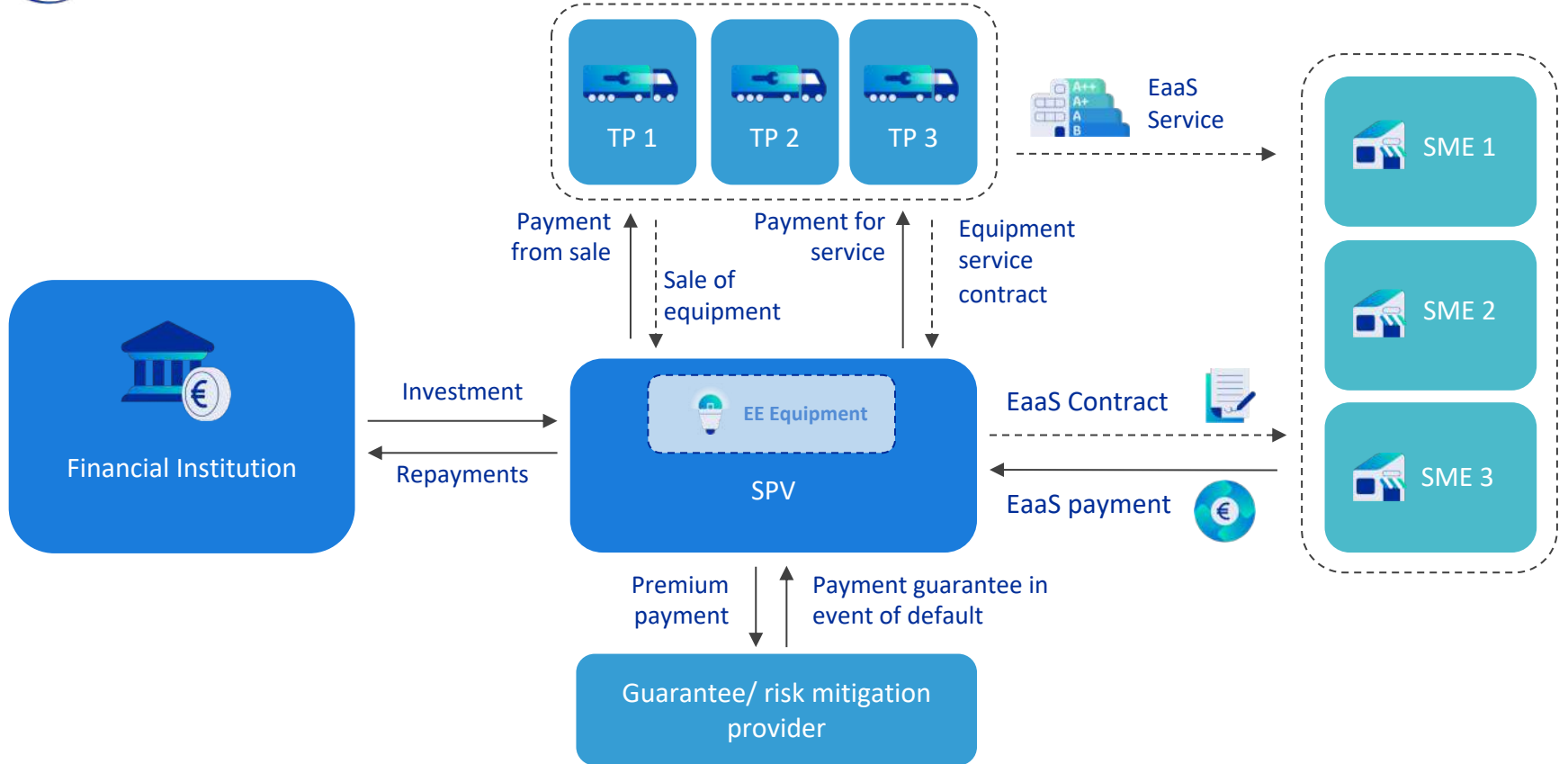
Example: Sale and Lease Back





# Business model

Example: Special Purpose Vehicle (SPV)



# PROJECT EXAMPLES





# Business model

Examples of application: CaaS



## Applying EaaS in Cooling with CaaS



“Working with KAER allowed us to guarantee clean air for all our customers. They’re able to provide unmatched levels of service with a system that is 100% run on solar energy.”

Deepak Kumar, Managing Director, Elpro International Ltd.

## Large real estate complex in India, by KAER.

**Context:** Real estate complex comprising of a retail center, a school, offices and community spaces requiring clean air conditioning.

**Solution:** High efficiency HVAC system of 700TR, 100% powered by solar energy and a closed water chilled system. Monthly payments are covered by the client upon consumption. Digital solutions have been incorporated so that the air conditioning functions only when required and when spaces are occupied.

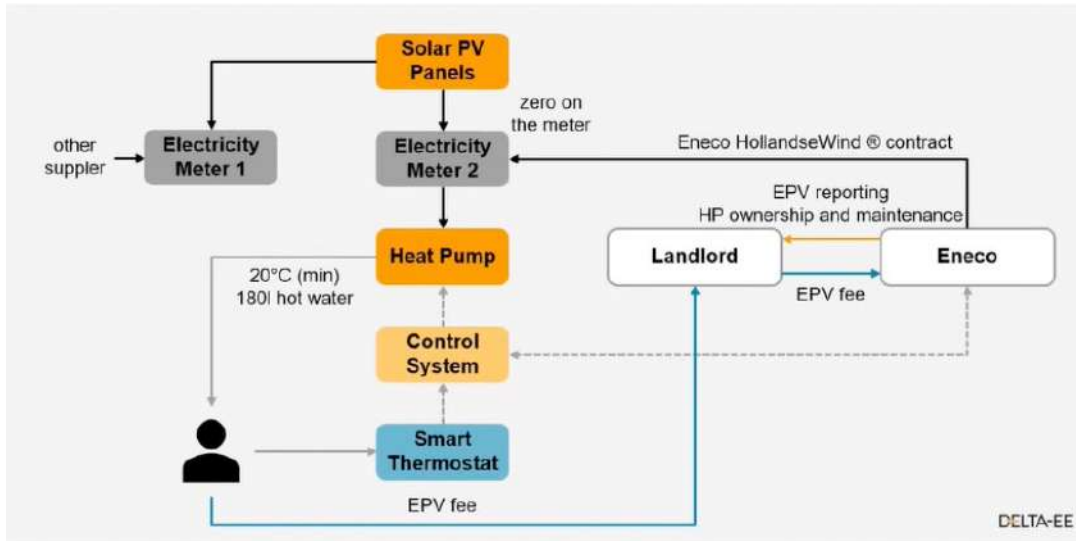
**Benefits:** Both client and final users enjoy a high-quality air-conditioning system, while focusing on their core-business and avoiding capital expenditures.

- Improved energy efficiency by more than 20%.
- Hassle free for the client.
- 100% renewable powered.



Applying EaaS in Heating with HaaS

# “Comfort as a Service”, The Netherlands



**Context:** Heat (output) is provided as a service to housing associations and energy efficient property owners.  
**Solution:** Customers are charged for warmth rather than heat generated. They receive a constant of 20°C and 180l of hot water per day for a fixed monthly fee from heat pumps owned by ENECO.  
Customer pays the landlord who then passes part of that fee to Eneco. The energy supplied to the heat pump is through green power (solar panels).





# Business model

Examples of application: CaaS



Applying EaaS in Refrigeration with RaaS

## EaaS applied in Supermarkets

### Food Retailers face multiple challenges:

High investment need to transition to natural refrigerants

Multiple interfaces to service providers to manage

Difficulty to take end-to-end / TCO perspective

Subscale to build tech expertise

### RaaS offers a solution for FRL end-users:

RaaS is the concept of offering customers an „all-in-one“ solution (Project, Hardware, Services, Operations) for refrigeration systems and other related equipment (e.g. HVAC) for 7-10 years for a fixed OPEX subscription fee



**Context:** Danfoss has entered a partnership with Ohmia Retail International AS and established a joint company in Sweden called Ohmia Retail Sweden AB to complement its current offering to the food retail customers in Sweden.

**Solution:** "All-in-one" service solution for energy efficiency

Customers are charged for consumption of refrigeration rather than purchasing the equipment.

Operational since March 1, 2022.



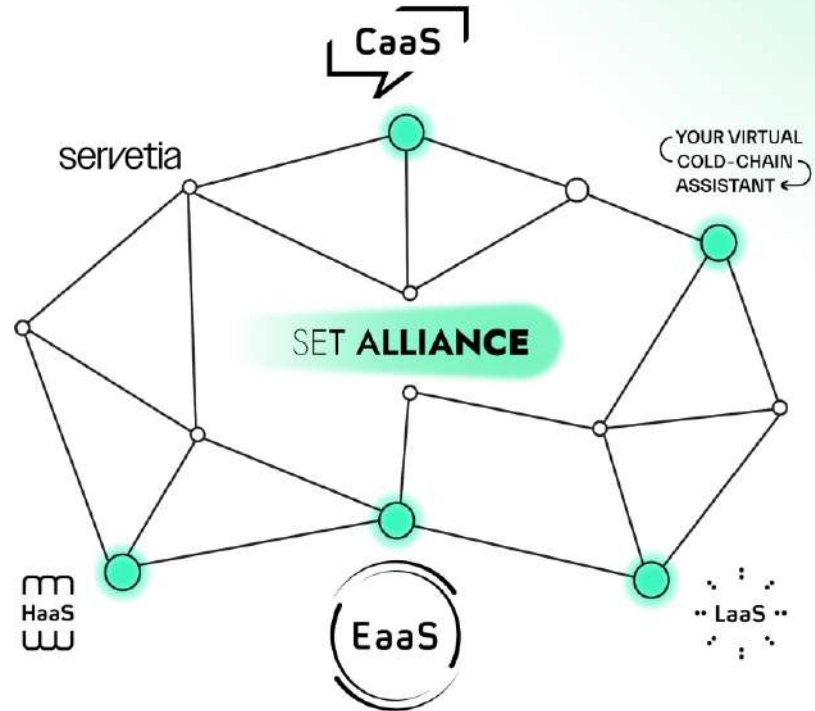
SET **ALLIANCE**

## Building on the success of CaaS & EaaS initiatives

Focusing on 4 pillars:

- Networks/Partnerships, advocacy, and outreach
- Tools, training & research
- Projects / innovation
- Engaging policy makers

Bringing solutions and key stakeholders together





## Steering Committee



## MEMBERS AND OUTREACH PARTNERS

## SET Secretariat



Carla Della Maggiora  
Deputy Director  
Advisor on SET



Emma Wink  
SET project lead & Energy Efficiency  
Analyst



Dimitris Karamtisos  
Senior Servitisation and energy  
efficiency business developer  
specialist



Alain Schilli  
Senior advisor Strategy, Business  
Development and Energy  
Efficiency expert



# The global Servitisation for Energy Transition (SET) Alliance

## SET ALLIANCE



### Get Involved!

- Scaling activities with with a global Alliance for Energy Efficient Applications
- Gathering investors, banks, solution providers, networks and international organisations to implementing the model in different sectors.
- Reach out to us to know more <http://www.set-alliance.org/>



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# Thank you

Contact information:

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