



Business models and smart financing for the deep renovation of buildings

Karine Laffont-Eloire, DOWEL Innovation



Who we are

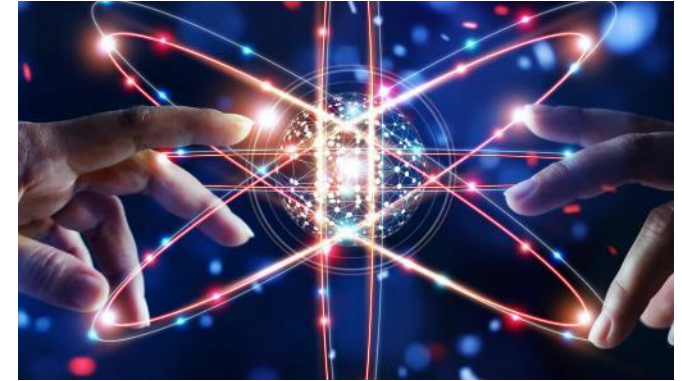
- Consultancy in innovation management, based in France
- Expertise in 3 sectors:



Low carbon energy systems
(Sector coupling, RES integration,
Energy Communities)



Sustainable built environment
(Building performances, Urban
mobility, Cultural Heritage)



Cross sector
(New European Bauhaus,
Cultural interactions, Clusters)



What will be presented today

- Findings of an EU-funded project, [STUNNING](#) (H2020)
 - Analysis of business models for building refurbishment
 - Selection and promotion of most innovative / promising ones
 - Review of concrete examples of implementation through case studies
- Updated with more recent findings from EU funded projects (e.g. [ReMODULEES](#), [Save the Homes](#), [Innovate](#)) and from JRC
- Completed with examples from France ([Oktave platform](#))



Analysis of business models for building renovation

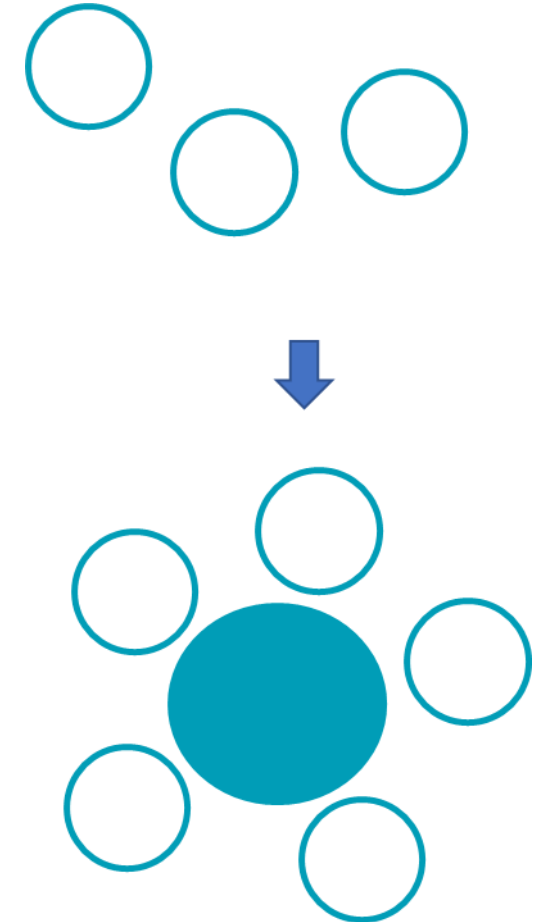
- Identification of different types of business models (or business model “patterns”)
 - Mostly EU, but also some examples from the US
 - BM already commercially deployed, other still at the development/ test phase
- Clustering of patterns with similar characteristics into **4 families:**

Business models based on **One Stop Shop (OSS)** concept

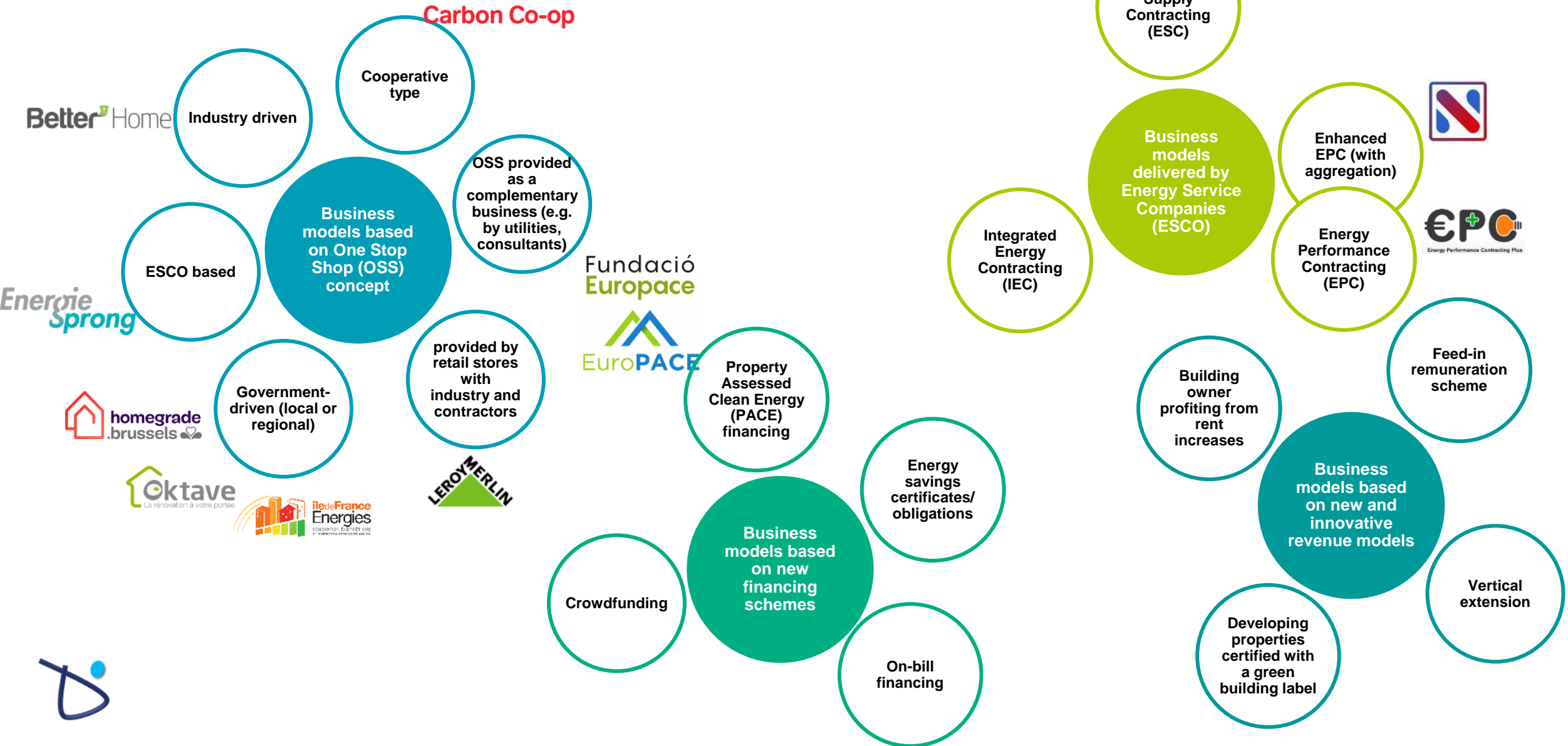
Business models delivered by **Energy Service Companies (ESCO)**

Business models based on **new financing schemes**

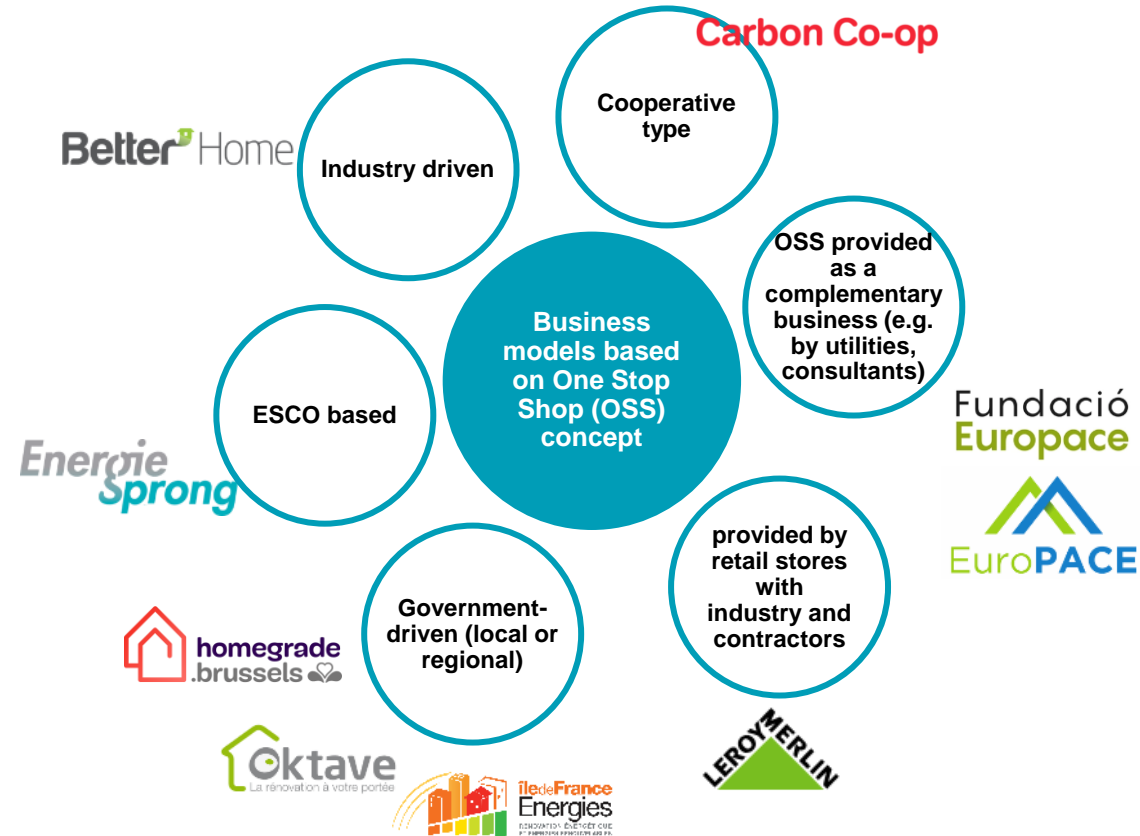
Business models based on **new and innovative revenue models**



Reviewed business models



Reviewed business models



One-Stop Shops

- Services offering **integrated renovation solutions** with the main intention of **simplifying the renovation journey** for homeowners
- **Translates a fragmented supply side**, e.g. designers, suppliers, installers, financiers into an integrated solution offered to homeowners
- Various OSS have been tested/ deployed already, especially since 2014
- **No standardised service offer / service path**, with coexistence of different models

Business model

1

Facilitation
model

2

Coordination
model

3

All-inclusive
model

4

ESCO-type
model

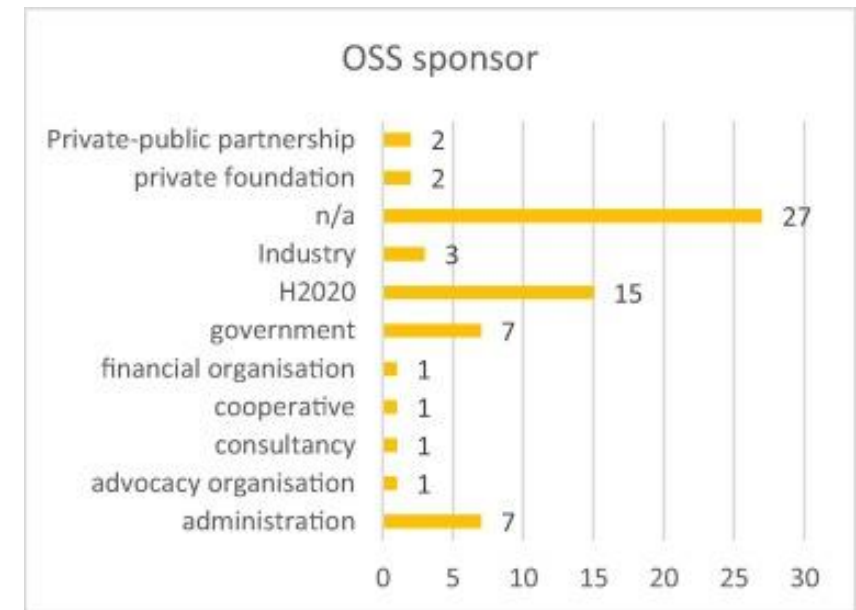


One-Stop Shops

- 63 OSS in Europe (2019), in particular in France, Netherlands, the UK, Belgium, Spain and Denmark












This number is expected to grow with the requirements from the revised EPBD (art. 18) (MS have to set up at least one OSS per 80000 inhabitants or per region)



Source: [Bertoldi et al.\(2021\) The role of one-stop shops in energy renovation - a comparative analysis of OSSs cases in Europe](#)



One-Stop Shops – different types

Government-driven (local or regional)	mostly driven by climate and/or energy considerations, sometimes by social targets.	  
Industry driven	Manufacturers or installers that aim to extend their businesses or improve customer care	
ESCO based	Building on their complex offerings, they extend and reclassify their value-added solution-parts	
Cooperative type	Aims mostly at the societal benefits, tackles fuel poverty	 
Provided by retail stores with industry and contractors	A large store or a warehouse, where the shoppers can get acquainted with the technologies and products, and have a personal contact option to ask for tailored advice and further assistance at the spot	
Provided as a complementary business (e.g. by utilities, consultants)	develop their original customer-related businesses, e.g. by extending the types of services, in order to reach more customers	



One-Stop Shops – driven by industrials

Better Home

Problem addressed:

Energy refurbishment considered as too complex by home owners

The solution:

Home-owner centric renovation journey:

Transparent and reliable process

Value for money

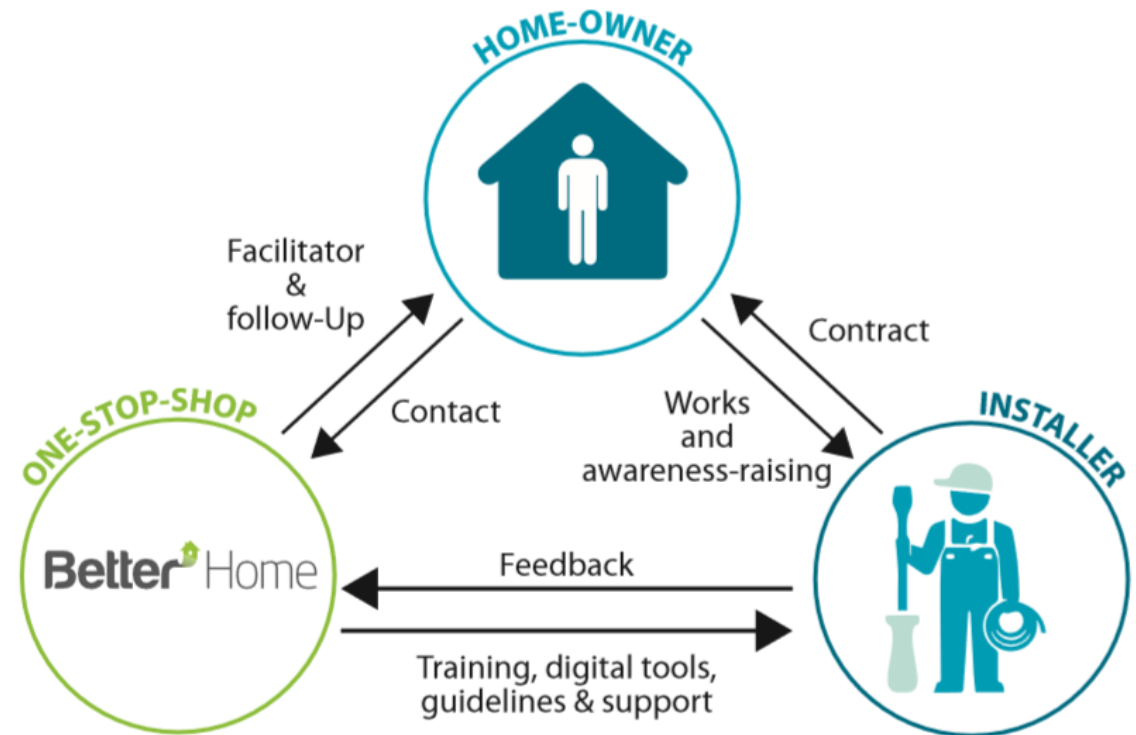
Digitalisation-driven: web platform, digital toolbox

Target:

Single family houses, Denmark

Who:

4 funding companies (Danfoss, Grundfos, Rockwool, Rockfon), cooperation with banks, network of installers



Achievements:

High conversion rate (from leads to order: >10%)

Turnover in all lead channels: **EUR 66,7 mill 2015-2018 (1182 projects)**

Avg. project size: **EUR 50.000-60.000**

One-Stop Shops – led by local authorities



Problem addressed:

Energy refurbishment considered as **too risky and costly** by home owners

The solution:

An owner-centric, reassuring renovation journey:

Administrative support

Third-party financing

Technical assistance

Home improvement (beyond energy)

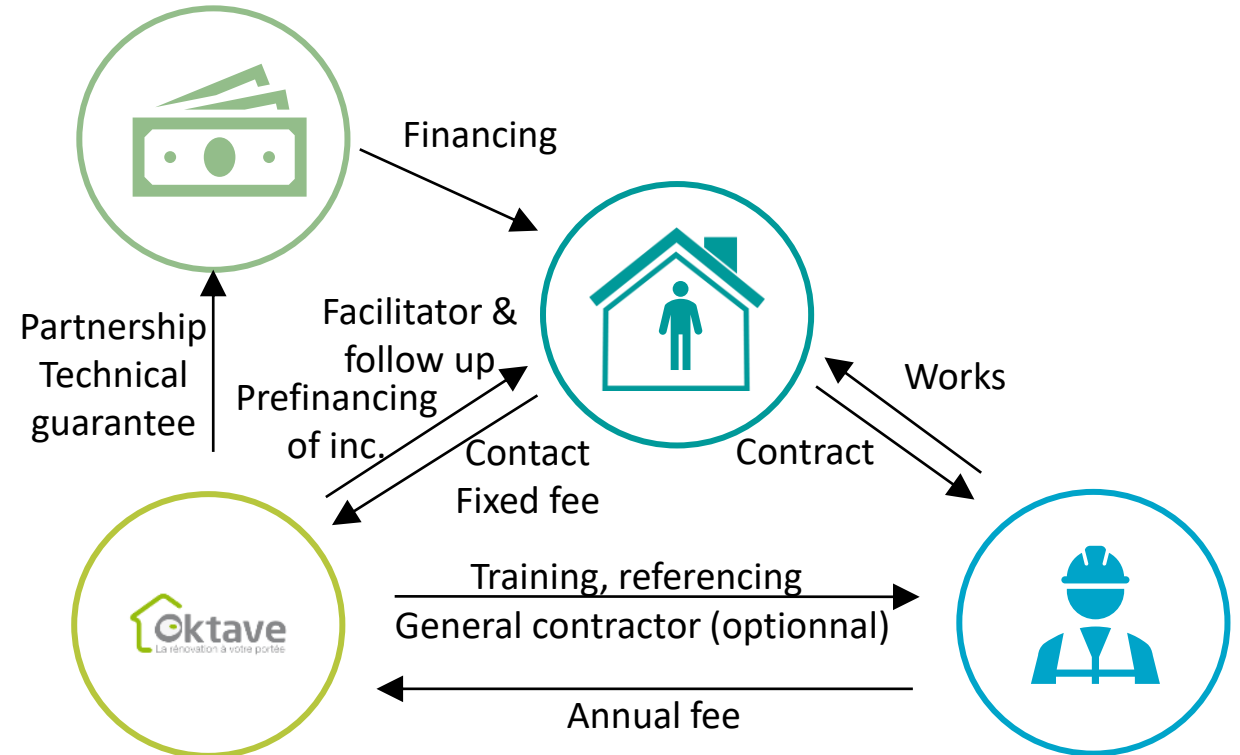
Target:

Single family houses and condominiums, France
(Région Grand Est)

Who:

Région Grand Est, ADEME, with involvement of local authorities, and a network of certified and trained installers. Partnership with banks.

Status of **semi-public company**



Achievements:

2014-2024: assistance provided to 1000 households (80M€),
with **290 renovation completed (21M€ - average 72 k€)**
>250 referenced installers/contractors

One-Stop Shops + ESCO

Energie Sprong

Problem addressed:

Energy refurbishment considered as **too complex and costly** by home owners

The solution:

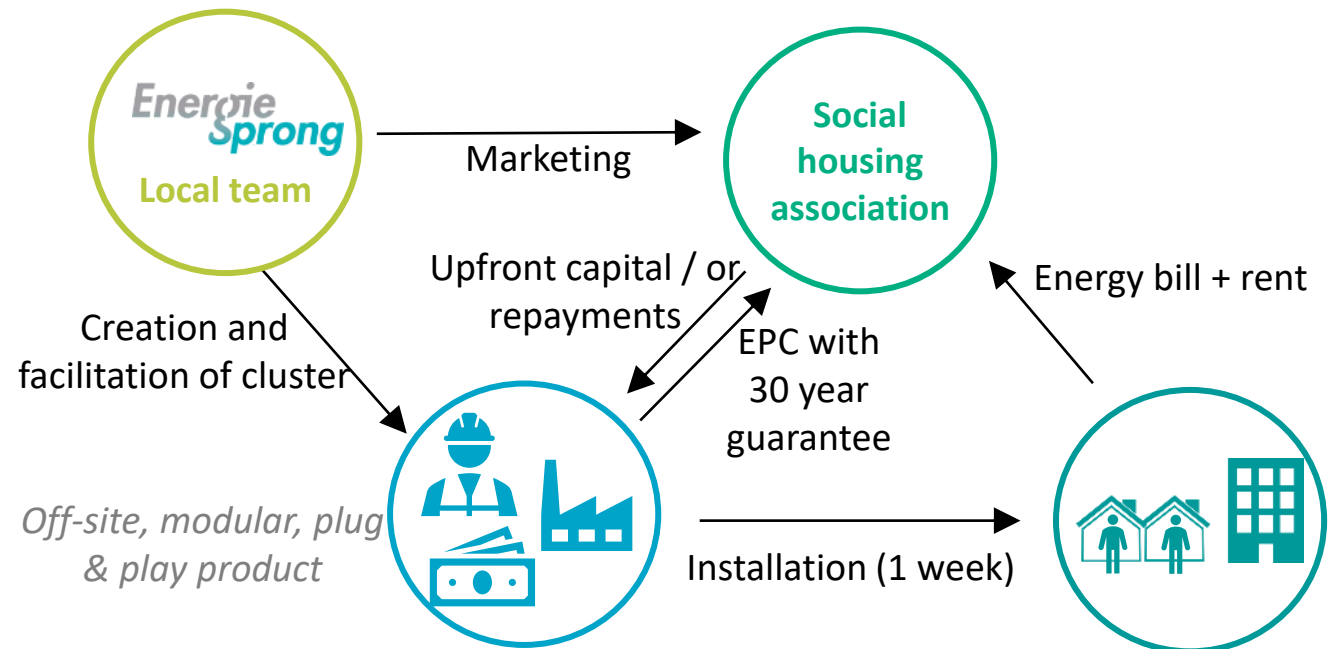
Desirable, warm, affordable homes for life
Net zero energy consumption warranted over 30yrs
Attractive, comfortable (new kitchen, bathroom)
Investment financed at 100% by energy savings (30 yrs)
Retrofit performed in 1 week maximum

Target:

Social housing (terraced houses, multi-apartments).
Country: NL, UK, FR, DE

Who:

Cooperation cluster (solution providers, market development team, contractors and SMEs).
Partnership with social housing companies.



Achievements:

>10 000 renovations across 7 countries (mostly NL and France)
Objective: reduce price thanks to mass market & economies of scale

One-Stop Shops + smart financing



Problem addressed:

Energy refurbishment considered as **too complex and costly in the long term** by home owners

The solution:

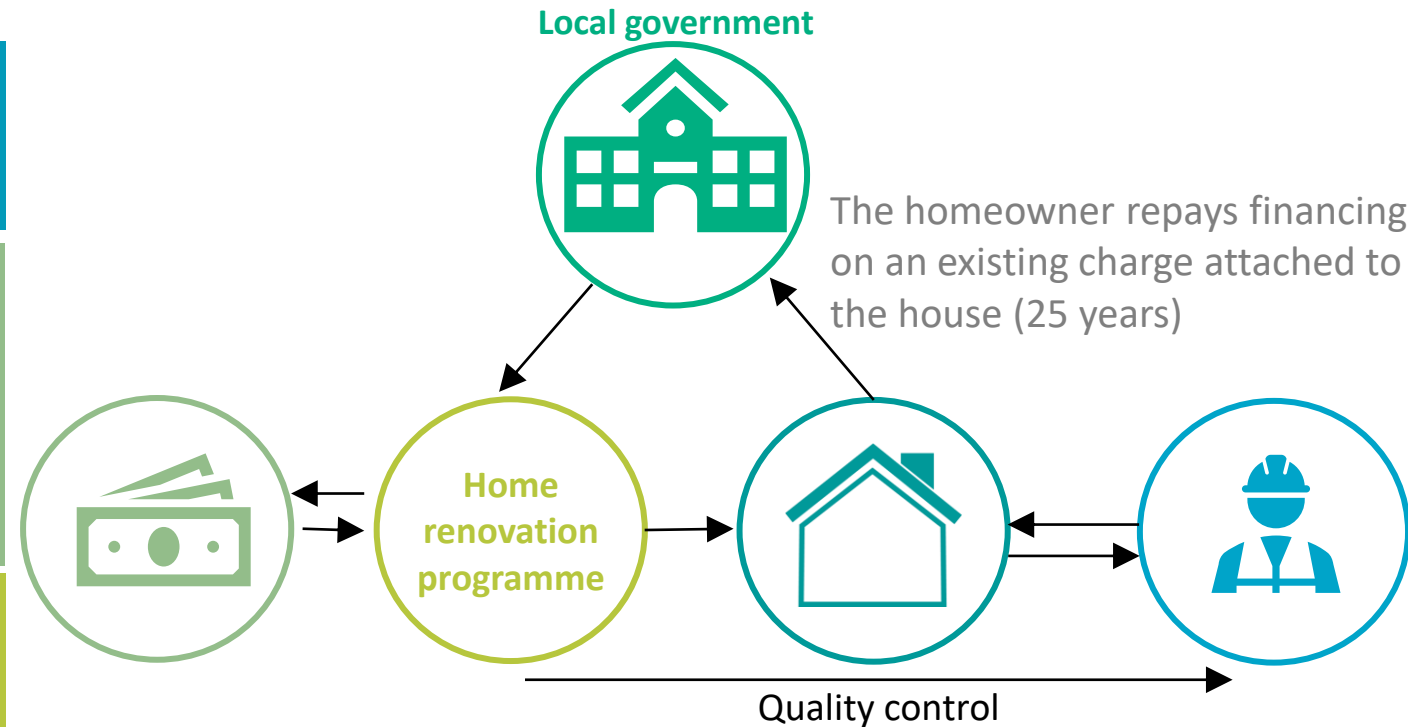
Simple, affordable & reliable home renovation for all
Home-based financing (attached to the property)
Technical support
Home improvement packages: family wellbeing
Quality control

Target:

Single family houses, apartments. Country:
depending on market readiness

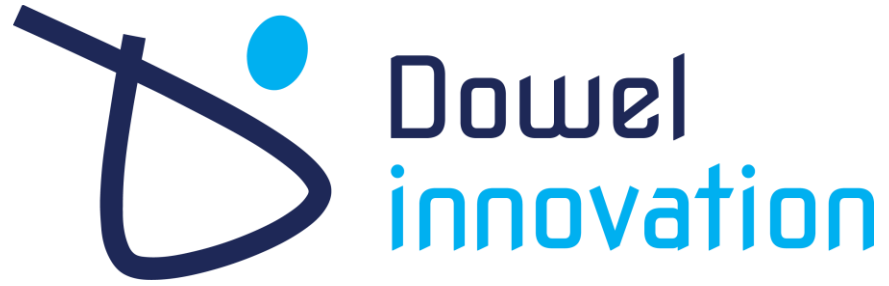
Who:

EU project, with involvement of local authorities, a network of trained and qualified energy contractors. Partnership with banks.



Achievements:


First pilots in 2019
Based on the successful **PACE Nation** from the US
Led to the creation of a spin-off: **Fundacion Europace**

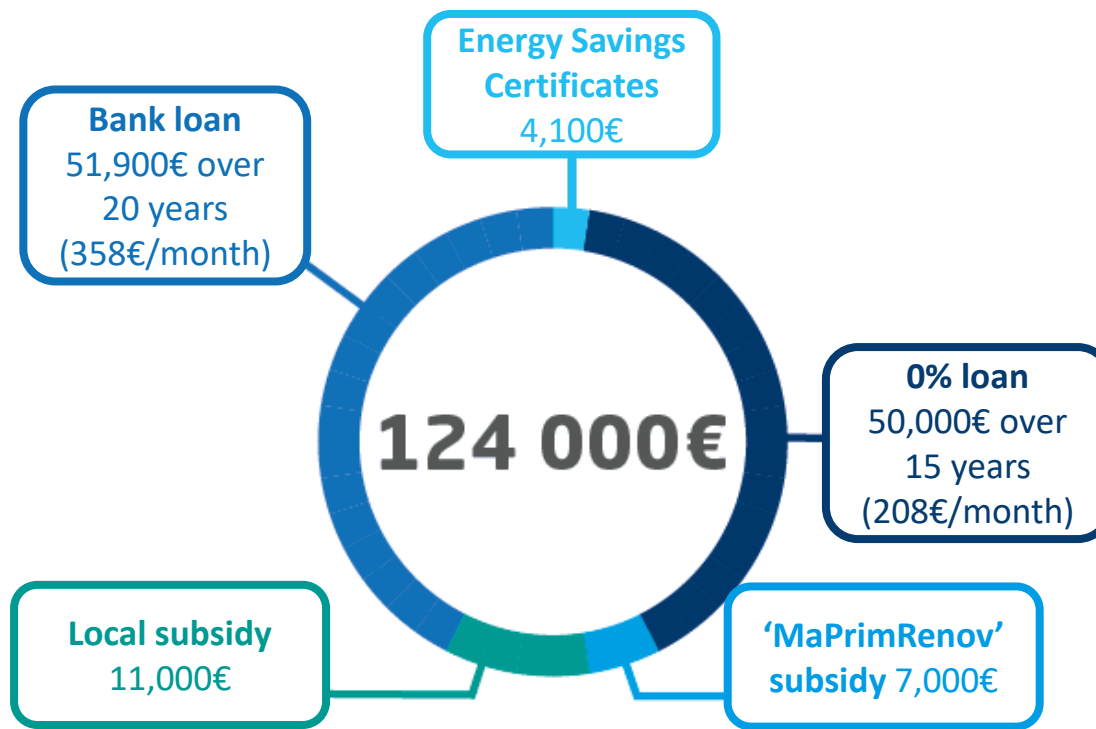


A few concrete examples

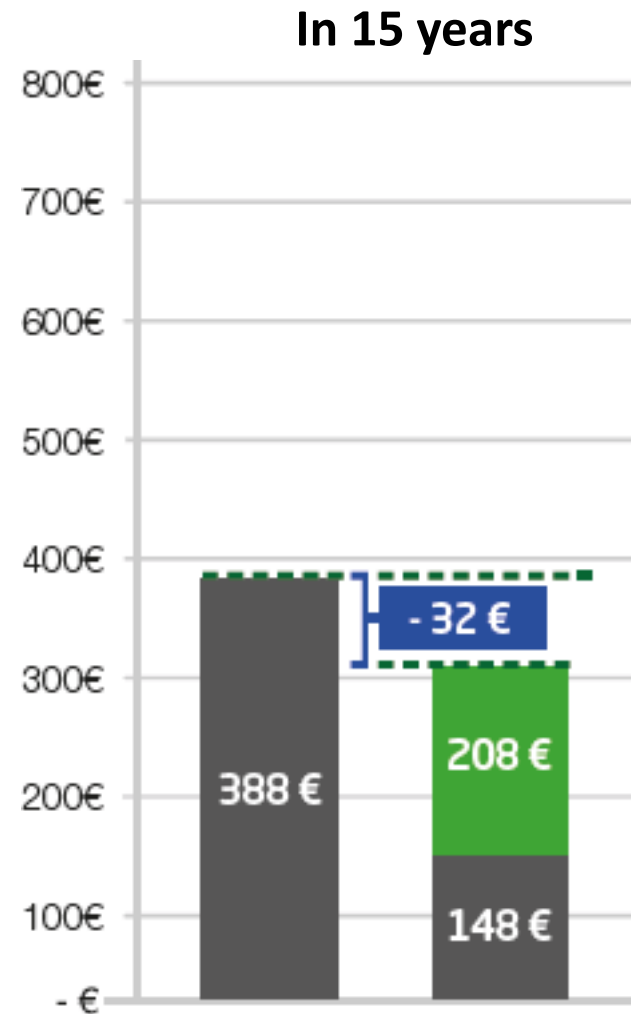
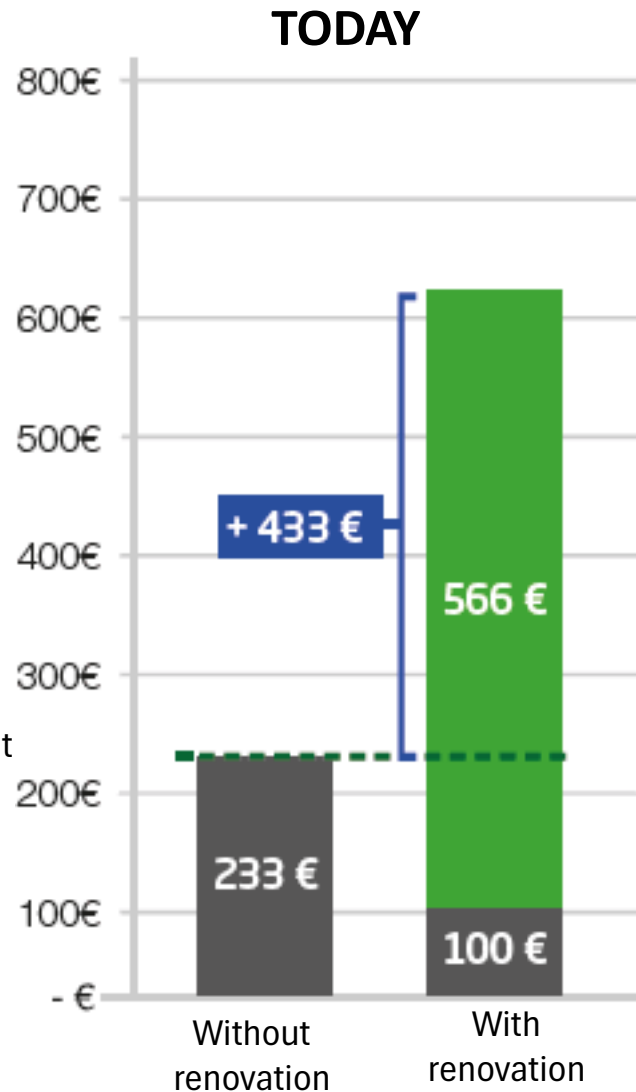


Example from Oktave – Single family house

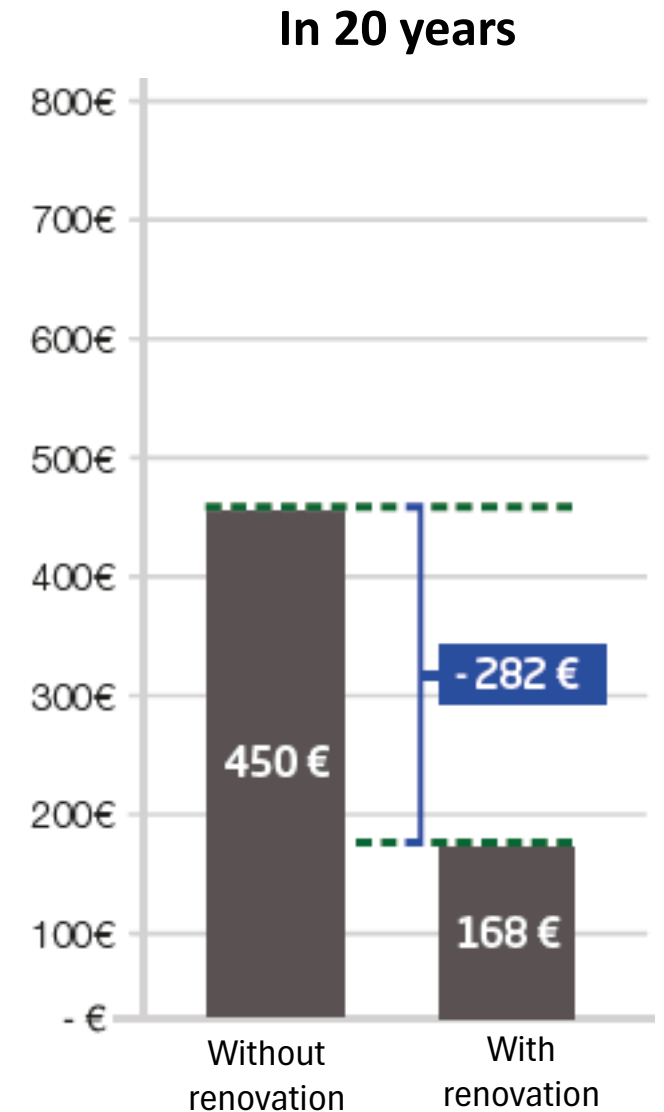
- City house, from 1960, 130 m²
- Energy performance before: E (252kWh/m².year)/ after: B (87kWh/m².year)
- Renovation package: 
- Financing:



Example from Oktave – Single family house




* With an annual increase of 5% in energy prices

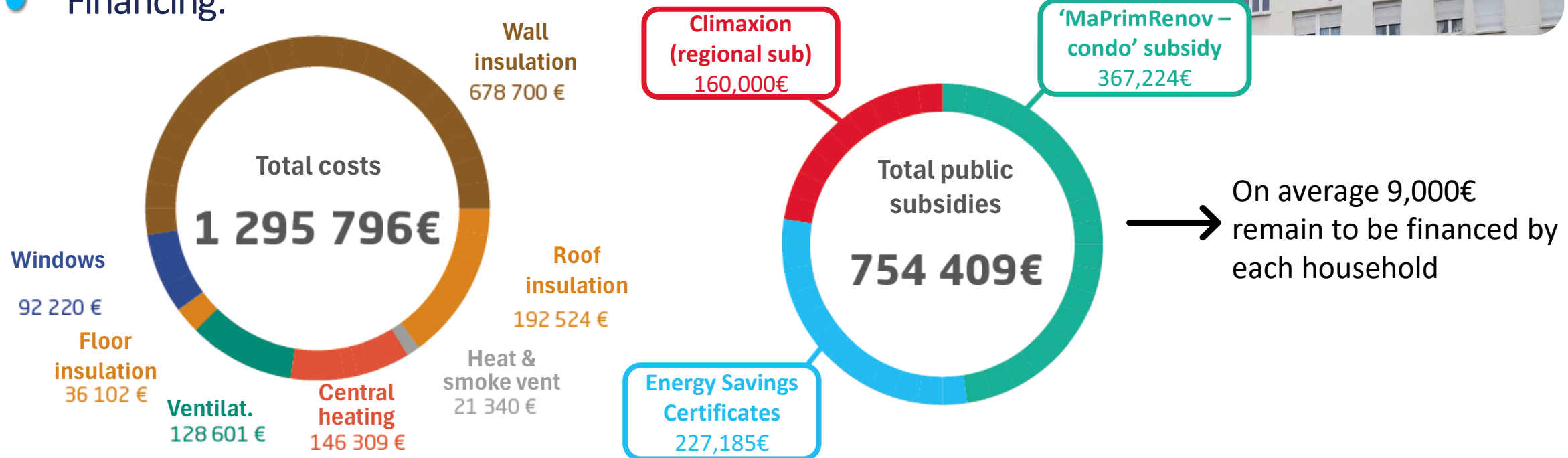


Energy
Loan repayment




Example from Oktave – Condominium

- 61 dwellings, from 1960, 4084 m²
- Energy performance before: F (350kWh/m².year)/ after: C (140kWh/m².year)
- Renovation package: 
- Financing:



Example from Energiesprong – School

- School from 1970, 1500 m²
- Energy performance before: 110kWh/m².year, after: 30kWh/m².year
- Renovation package: 
- + energy production on the roof and BEMS
- Financing:
 - Total cost of 1 650 000 €
 - Subsidies from the State, the Region, ADEME and loans from Banque des Territoires
 - Energy Performance Contract with Zero Energy level guaranteed over 20 years



Conclusions

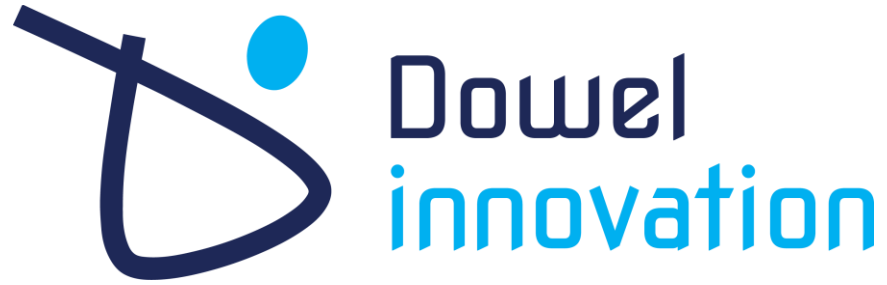
- Innovative business models exist and have been already successfully deployed in some countries, in particular OSS approaches
- There is **no one fit-for-all business model** for the energy efficient renovation of buildings, but a variety of possible combinations
- The best “**recipe**” should take inspiration from successful business models already piloted and replicated in Europe, but also **pay attention to local constraints, barriers and enablers** (in terms of regulations and policies, building type, type of ownership, climate, local value chain)



Conclusions

- Remaining barriers to OSS:
 - Sustainability of these models without subsidies: **how to generate and ramp up the demand to reach mass market and economies of scale?**
 - Communication/ marketing for better visibility, increase trust, valorise non-energy benefits
 - Financing: Integrate the energy performance of a house when assessing mortgage affordability, link a loan to a building rather than a person (PACE), blended loans and guarantees from public and private sources...
 - **Scaling up and replication to other countries**, depending on the legal and fiscal context, the market readiness, etc.
 - E.g. Energiesprong first replicated to UK and France, legal/fiscal/market readiness for other business models is highly dependant on local context
 - Municipalities and local authorities are instrumental in supporting the replication of successful business models





Thank you!

Karine.laffont@dowel.eu

