SINFONIA webinar "Investing in deep refurbishment: Is it worth it?"

February 19th, 2019





# Business Models for the deep renovation of buildings

- Findings of the SINFONIA and STUNNING projects -

### Karine Laffont-Eloire – DOWEL Management



This project has received funding from the European Union's Seventh Programme for research, technological development and demonstration under grant agreement No 609019

### Context

40 to 45% of Europe's energy consumption comes from buildings... further 5-10% required for the manufacturing and transport of construction products and components

Building sector = One of the key enablers for achieving 2050 low carbon economy goals



Most of the energy savings required to meet Europe 2050 goals must come from existing buildings.

Renovation rate only 1% today...it should be at least 3%

What are the main barriers to the renovation of the EU building stock?

> How can we address the nontechnical ones?

Innovative, user-centered business models, taking into account the whole value chain of renovation

### **STUNNING project a glance**



- "SusTainable bUsiNess models for the deep reNovation of bulldiNGs"
- H2020 Coordination and Support Action – Oct 2017 to Sept 2019

### • Objective:

- To accelerate the adoption of new business models for energy-efficient buildings based on integrated, adaptable and affordable refurbishment packages
- To engage with the whole community of stakeholders



### Barriers to the scale up of renovation

- Most of the barriers to energy renovation are non-technical
  - Barriers at the level of the building owner/ user:
    - · Limited financing and uncertainty about real savings,
    - Split incentives
    - Lack of information, acceptance by building owners & decisionmaking process,
  - Barriers at the level of the construction sector
    - Fragmentation and poor coordination
    - · Lack of skills of contractors/ SMEs
    - ....
- Innovative business models and smart financing are required to support and accelerate the deep renovation of the EU building stock
  - Move risk and financial burden from owners to institutional investors or banks
  - Better account for non-energy benefits (e.g. property value) to decrease risk and payback time

ntonia

## What needs to be taken into account by a successful BM?

- Be user-centered, , from design to operation, valorising non-energy benefits
- From pains to gains:
  - Focus attention more broadly on the multiple benefits of energy renovation.
  - Disconnect from the "kWh" and "payback" rationale: co-benefits such as comfort and health.

 Develop collaboration models at all levels and coordinated approach

- Partnerships between manufacturers
- Involvement of third parties financiers and banks, or ESCO providing financial support
- Alliances for economies of scale
- Training activities to build up skills
- Raise awareness
  - Targeted communication, Pilot projects, Replication



### **STUNNING work on business models**

- Work led by RINA Consulting
- Analysis of business models for building refurbishment
  - 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
    - · List regularly updated
  - Clustering of patterns with similar characteristics into 4 families:



### **Reviewed Business Models**



### **FOCUS ON ONE-STOP-SHOPS**



### **Digitally enabled OSS**

### **Better<sup>2</sup>**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

> > How:

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



### **OSS provided by semi-public companies**



Problem addressed: Energy refurbishment considered as too risky and costly by home owners

#### The solution:

An owner-centric, reassuring renovation journey: Administrative support <u>Third-party financing</u> Technical assistance Home improvement (beyond energy)

#### Target:

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

#### How:

Région Grand Est, ADEME, with involvement of local authorities, and a network of certified and trained installers. Partnership with banks. Status of <u>semi-public company</u>



#### Achievements:

2014-2018: assistance provided to 488 households, with 168 energy efficient renovation (10,4M€ - average 62 k€) 250 referenced installers/contractors

I UI IId

### **OSS supported by a Step-by-Step**



Problem addressed: Energy refurbishment considered as too complex, expensive and time-consuming by home owners, lockins may occur

#### The solution:

Individual Building Renovation Passport with a customised Step-by-Step renovation plan with long-term horizon (Roadmap) plus a digital repository of building information (Logbook).

<u>Flexible approach</u>: The Roadmap supports building improvements and documents its performance. Initial savings can finance future steps.

#### Target:

Residential buildings (with pilots in Germany, Bulgaria, Poland, Portugal)

#### How:

EU project with involvement of national energy agencies and a network of trained and qualified energy auditors. Targeting market and policy makers for broader adoption.



#### Expected results:

iBRoad creates Roadmap, Logbook, training toolkit for energy auditors in pilot countries, policy and practice recommendations for EU-wide implementation.

### **OSS + innovative financing**



Problem addressed: Energy refurbishment considered as too complex and costly by home owners

The solution: Simple, affordable & reliable home renovation for all <u>Home-based financing (attached to the property)</u> Technical support Home improvement packages: family wellbeing

#### Quality control

#### Target:

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

#### How:

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

The second

### **OSS with cooperation cluster**

### 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 warrantied 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 mostly, now also multi-apartments). Country: NL, UK, FR, DE

#### How:

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



### Achievements: Close to 10 000 renovations NZE certified Objective: mass market by 2020, target price 65k€

IIOIId

### OTHER BUSINESS MODELS/ SMART FINANCING AND RECOMMENDATIONS



### **Energy Performance Contracting**

The ESCO provides a **customized service package** which includes design, installation, (co-) financing, operation & maintenance, optimization and user motivation

For many customers **financing** is the most attractive part of EPC services for buildings

- Key benefits include **risk transfer**, the ability to modernise a building's energy infrastructure without necessarily having the funds and accessing external expertise and the **performance guarantee**
- The key focus is on saving energy first at the point-of-use before optimizing the respective energy supply



EPCs are mostly found in the public sector (for e.g. universities, hospitals, swimming <sup>cost</sup> & leisure facilities) and to a lesser extent in the industrial and commercial building sectors. This is because **a large project is a prerequisite** (the minimum energy cost baselines are usually at 200,000 €/year). EPCs have also been trialled for large residential building blocks.





### « Enhanced » EPC

### NOVICE

**Problem addressed** Energy refurbishment is considered too **complex and costly** by building owners

#### The solution

#### **Customized service package with energy performance guarantee** Investment financed by energy savings In the case of the "enhanced" EPC: shorter payback period and improved comfort thanks to Demand Response Services

#### Target

Large public and commercial buildings, also buildings blocks

#### How

The ESCO acts as a general contractor, takes over the risk and can provide financing. For the "enhanced" EPC, the ESCO remains the single point of contact for all measures but uses the services of a demand response aggregator to provide services to the grid

#### Achievements

EPCs have been used in the EU since the 80s (mostly in the public sector), but the market remains underdeveloped in comparison to the US NOVICE pilots to be launched in Austria, Finland, Germany, Ireland and UK





### **Vertical extension**

The renovation process is performed through the **addition of volume** to the building being it a rooftop "vertical" extension, a facade addition or even a side building. Usually this type of model utilizes industrialised construction methods and prefabricated elements in order to **shorten project time and reduce the impact on tenants** 

The added building volume and dwelling area generates a **bonus** and is a **complementary economic instrument for investors** (real estate investors, construction companies in conjunction with ESCO, etc.)

May act as an attractor for private sector financing, playing an extremely important role, in particular in contexts of scarce private finance where the search for smart financing of upfront investments is crucial

**Large residential buildings** in the need of renovation, in particular traditional building stocks built in the 60s or 70s.

**Single family houses:** In this case the financial benefit is not the selling point, but rather the **gain in comfort**, **accessibility and value property** generated by a home extension. The decision to extend a home can be a trigger to carry out a complete energy efficient renovation.



### **Vertical extension – SINFONIA example**

- 1 new floor 4 additional apartments (rented)
- Prerequisite: needs to be allowed by local regulation + technically feasible



### **Recommendations for the ideal « recipe »**

For who?	The problem	What?	How?	Can be combined with
Owner occupant	Renovation journey too costly and complex for the home-owner	One Stop Shop	Provided by a semi-public entity, or a utility, or a cluster of SMEs, etc. Supported by a digital tool	Step-by-Step approach Home-based financing
Social housing	Renovation in occupied dwellings. Acceptance by tenants	One Stop Shop "Energiesprong"	Initiated by a dedicated marketing team	Add-on business model
		Energy Performance Contracting	Provided by an ESCO	Collective Self- Consumption
Condominiums	Renovation in occupied dwellings. Acceptance by multiple owners.	One Stop Shop	Provided by a semi-public entity, or a utility, or a cluster of SMEs, etc.	Step-by-Step approach
Public buildings	Long-term asset management	Energy Performance Contracting	Provided by an ESCO	Crowdfunding (for cultural heritage)
Offices and other tertiary buildings	Attractivity of estates for companies / lessees	Energy Performance Contracting	Provided by an ESCO	Demand Response services Higher rents Green label

### **Recommendations when setting up a new renovation service**

<ul> <li>WHAT (Value proposition)</li> <li>Address key selling points for the end-customer: accessibility, comfort, status/ reputation – energy efficiency comes on top. Put forward the global comfort and go beyond the energy performance</li> <li>Create trust and simplify the customer journey (e.g. with One Stop Shops, renovation coordinators / coaches, main contractor, etc.)</li> <li>Build confidence from clients thanks to performance guarantee</li> </ul>	<ul> <li>WHO (customer segment and customer channels)</li> <li>Identify subsegments and what triggers renovation for each of them (i.e. purchase of a new house) and develop a new (local) business model around that (with synchronisation of incentives)</li> <li>Communication is key: tailor the messages to the targets. Support local peer-to-peer learning / pilots</li> <li>Use influencers to speed up the changes</li> </ul>
<ul> <li>HOW (Key activities &amp; resources, key partnerships)</li> <li>Focus on the integration of all (local) actors</li> <li>Build national synergies and alliances, engage with local stakeholders</li> <li>Dedicate resources to the training &amp; upskilling of contractors &amp; installers (including digitalisation), with a systemic approach to ensure that the overall performance (energy, comfort, etc.) is well accounted for and that the different trades collaborate more efficiently</li> </ul>	<ul> <li>WHY (Revenue model)</li> <li>Convince bank and financial institutions to think in net present value &amp; house performance</li> <li>Compare the investment cost with the cost of doing nothing (BaU) / risk management</li> <li>Set up incentives to encourage deep renovation – including staged incentives to better support Step-by-Step approaches</li> <li>Procurement processes: encourage long-term partnerships (not on a project basis), support innovation to accelerate its uptake - see EU guidelines on Public Procurement of Innovation</li> </ul>

### **Visit the Renovation Hub** to learn more!





**Refurbishment solutions** 



#### **Business Models**



#### **Case Studies**

**Case Studies** 

Read our case studies showcasing the imp ptation of promising Refurbishment Packages and Bu



#### https://renovation-hub.eu/

### Karine LAFFONT-ELOIRE

e-mail : <u>karine.laffont@dowel.eu</u>





www.stunning-project.eu

