

JRC SCIENCE FOR POLICY REPORT

One-stop-shops for energy renovations of buildings

Case studies

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Executive summary

The “One-stop-shops for energy renovations of buildings” report is the exploratory review of case studies of past and current one-stop-shops (OSS) with a primary focus on the EU Member States. One-stop-shops are transparent and accessible advisory tools from the client perspective and new, innovative business models from the supplier perspective.

One-stop-shops have been advocated by the European Commission through the “Smart financing for smart buildings” initiative and through the “new” EPBD as part of the Directive 2018/844/EU. According to the latter, “Member States are required to facilitate access to appropriate mechanisms for accessible and transparent advisory tools, such as one-stop-shops for consumers and energy advisory services, on relevant energy efficiency renovations and financing instruments.”

The current knowledge about this business structure is rather limited. Therefore, the European Commission, Joint Research Center (JRC) has engaged in identifying working models, and assessing the framework conditions in which they are successful and the benefits they offer for clients and/or the economy, and effectively also to climate mitigation and energy efficiency improvement of buildings.

The current report is the first of two, and serves as a scoping study. It aims to create a registry of OSS that work (or used to work) in the field and provide basic information about them in a uniform analytical format. The collection currently includes 23 OSS, and 5 larger scale framework projects related to OSS (the market analysis, demonstration examples, information dissemination or training, etc.).

This report offers a comparative review, but only limited analysis. A second report will follow as of early 2019, which will complement it with a deeper analytical assessment of the role of OSS in the energy efficiency market, and in the energy system policy framework.

1 Background

Interest from the European Commission about the “one-stop-shop” (OSS) business concept for buildings has recently increased, and has become a critical element of the **“Smart financing for smart buildings” initiative**¹, whereas

Member States are encouraged “to develop dedicated local or regional one-stop-shops for project developers, covering the whole customer journey from information, technical assistance, structuring and provision of financial support, to the monitoring of savings. These facilities should lead to more locally-developed project pipelines and strong and trustworthy partnerships with local actors (e.g. SMEs, financial institutions, and energy agencies), the key being to connect the supply of finance with demand for it. The development and replication of these one-stop-shops will be supported at the EU level by an exchange of good practices through Manag'Energy, funding through Horizon 2020, the EU Project Development Assistance facilities, or funding from the European Structural and Investment Funds (ESIF) when relevant.”

One-stop-shops are transparent and accessible advisory tools from the client perspective and new, innovative business models from the supplier perspective.

One-stop-shops are also advocated by the **Directive 2018/844/EU**, which amends the **Directive 2010/31/EU** on the energy performance of buildings (EPBD) and **Directive 2012/27/EU** on energy efficiency (EED). In its preamble (#16) it calls for improved financing of buildings, and for one-stop-shops to be utilized as advisory and assistance tools. The EPBD is extended with a new article, Art. 2.a. calling for long-term renovation strategy, as part of which Member States are required to facilitate access to mechanisms, such as one-stop-shops, which are considered as advisory tools here to inform and assist consumers in relation to energy efficiency renovations and financing instruments. According to the revised EPBD Article 20(2), “Member States shall provide the information through accessible and transparent advisory tools such as renovation advice and one-stop-shops”.

OSS services are effective because the OSS:

- is local;
- accelerates building refurbishments by informing, motivating, as well as by assisting building owners to follow through energy efficiency investments, by standing beside them from the start to the end;
- can facilitate interested, but not yet committed energy users/asset owners to actually implement an energy saving or other type of sustainable project;
- can ease access to financing and occasionally offer better rates;
- can be one of the tools to increase the renovation rate,
- can also improve the average renovation depth in terms of energy performance, because an OSS walks through the full renovation route.

¹ Accelerating clean energy in buildings. Annex to the Clean Energy For All Europeans. Brussels, 30.11.2016. COM(2016) 860 final.

2 Introduction

The buildings sector, and in particular, **existing dwellings** are pivotal in meeting a number of the European headline targets² (not only climate and energy targets, but also employment, poverty and social inclusion targets)³, while they are not yet at the receiving end of many ambitious policies⁴, although financial and soft measures have been used at EU and national level, whose impacts are to be further strengthened. In spite of the intrinsic advantages there are a **large number of barriers** that delay or even prevent a seemingly rational decision by the asset owners, and these have been reviewed in a large number of sources, for example:

Table 1. Key barriers in the existing buildings sector, valid both for the residential and public sectors.⁵

Barrier Categories	Common Barriers
Lack of knowledge and know-how	<p>Lack of reliable and credible information about energy performance and the costs and benefits of efficiency improvements</p> <p>Lack of implementation capacity: shortage of relevant technical skills in local markets to ensure compliance of building EE codes</p> <p>Risk aversion to unfamiliar materials, methods and equipment, or uncertain outcomes</p>
Institutional and regulatory deficiencies	<p>Lack of national and/or local commitment to EE in general, and to EE in buildings in particular</p> <p>Government internal procedures and lines of responsibility that discourage EE in public buildings (e.g., budgetary and procurement policies not conducive to contracting EE services)</p> <p>Poorly designed social protection policies that undermine price signals for efficient use of energy (e.g., generally subsidized energy prices)</p>
Financing challenges	<p>Local government budget constraints</p> <p>Lack of long-term financing at a moderate cost</p> <p>High transaction costs due to small individual investments</p> <p>Unattractive financial returns</p> <p>Unreliable repayments</p>
Market failures and inefficiencies	<p>Split incentives: EE investment decisions are made by actors that do not receive direct financial benefit</p> <p>Suboptimal decisions or choices due to insufficient information</p> <p>Fragmented building trades: multiple professions involved in different stages or decision processes</p>

² See e.g. at: http://ec.europa.eu/eurostat/statistics-explained/index.php/Europe_2020_headline_indicators

³ Ürge-Vorsatz, D. et al. 2007.

Boza-Kiss B, Moles-Grueso S, Ürge-Vorsatz D. 2013

⁴ Commission Staff Working Document Impact Assessment. SWD/2014/015 final. Accompanying the document Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions A policy framework for climate and energy in the period from 2020 up to 2030.

⁵ Source of the summary table: ESMAP. 2014. Improving Energy Efficiency in Buildings. Mayoral Guidance note #3. URL: www.esmap.org/Energy_Efficient_Cities

It is not debated that demand side improvement measures in the building sector offer a number of various benefits. These benefits may include the growth of economic value, improved comfort, better health etc. **Benefits can be relevant for the individual and/or the society.** Therefore, **additional efforts are needed to enhance overcoming the above barriers.**

One of these opportunities are offered by enhancing private sector investments and improvements in existing buildings, for example through assisting by OSS or other "integrated solutions".

Supplying **complex products and systems (CoPS)** rather than individual products or services⁶ is a strategic move, which can reposition businesses, while providing customers more tailored **"integrated solutions"**⁷. Offering "integrated solutions" enables the manufacturers, service providers, and new entrants to capture a **market niche**, where they meet the customers' specific requirements ranging from individual packages to full service solutions. Such "integrated solutions" emerged largely in the 1990s, starting in the IT sector, which was creating more and more complex systems that became too complicated to fully capture by many of the potential customers. Construction and renovation provision with energy performance improvement is going through a similar transition, where complex, fragmented offers can be integrated into offers of higher value proposition, and through which a supplier can better position itself.

From a **customer perspective**, the "integrated solution" becomes a "one-stop-shop" (OSS) service in the buildings sector, when asset owners that would like to realize energy renovation of their buildings are aided in more than one/few steps in the process. An OSS service transforms a cumbersome and complex set of decision-making/actions by non-experts into a single entry, customer-friendly offer. The OSS concept means moving away from the **classic set-up where asset owners face directly every entry point of a complex renovation value chain with a number of interlocutors**, and where the asset owner – who is a non-expert – **has to find the best combination of the parts of a complex solution**, to a situation where project promoters can benefit from a **customer-centred service offer establishing a bridge between the fragmented supply side and the also fragmented demand side.**

The "one-stop-shop" of shopping dates back to 100 years ago, when the first modern American supermarket, the Piggly Wiggly was opened by Clarence Saunders on 11 September 1916 in Memphis, Tennessee. He pioneered a self-service business model for selling groceries that was drastically different from previous customs. The traditional shopping would entail hopping from specialty retail stores to groceries, then to the butcher, and the baker, etc. Inside the shops, the customer handled over the shopping list relevant to that merchandise. With the new style, customers could purchase more and more products in one place and collect what they needed themselves with a basket in hand⁸.

The OSS service providers for buildings are organisations, consortia, projects, and even independent experts or advisors that usually **cover the whole or large part of the customer chain** from information, technical assistance, structuring and provision of financial support, to the monitoring of savings. They are key to facilitate the implementation of locally-developed project pipelines and strong and trustworthy partnerships with local actors (e.g. SMEs, financial institutions, energy agencies). They also often develop partnerships with (local) banks.

⁶ Slywotsky, A.J. 1996. Sharma, D. & Molloy, R. 1999. Booz Allen & Hamilton Davis, A., Tang, P., Hobday, M., Brady, T., Rush, H., & Gann, D. 2001

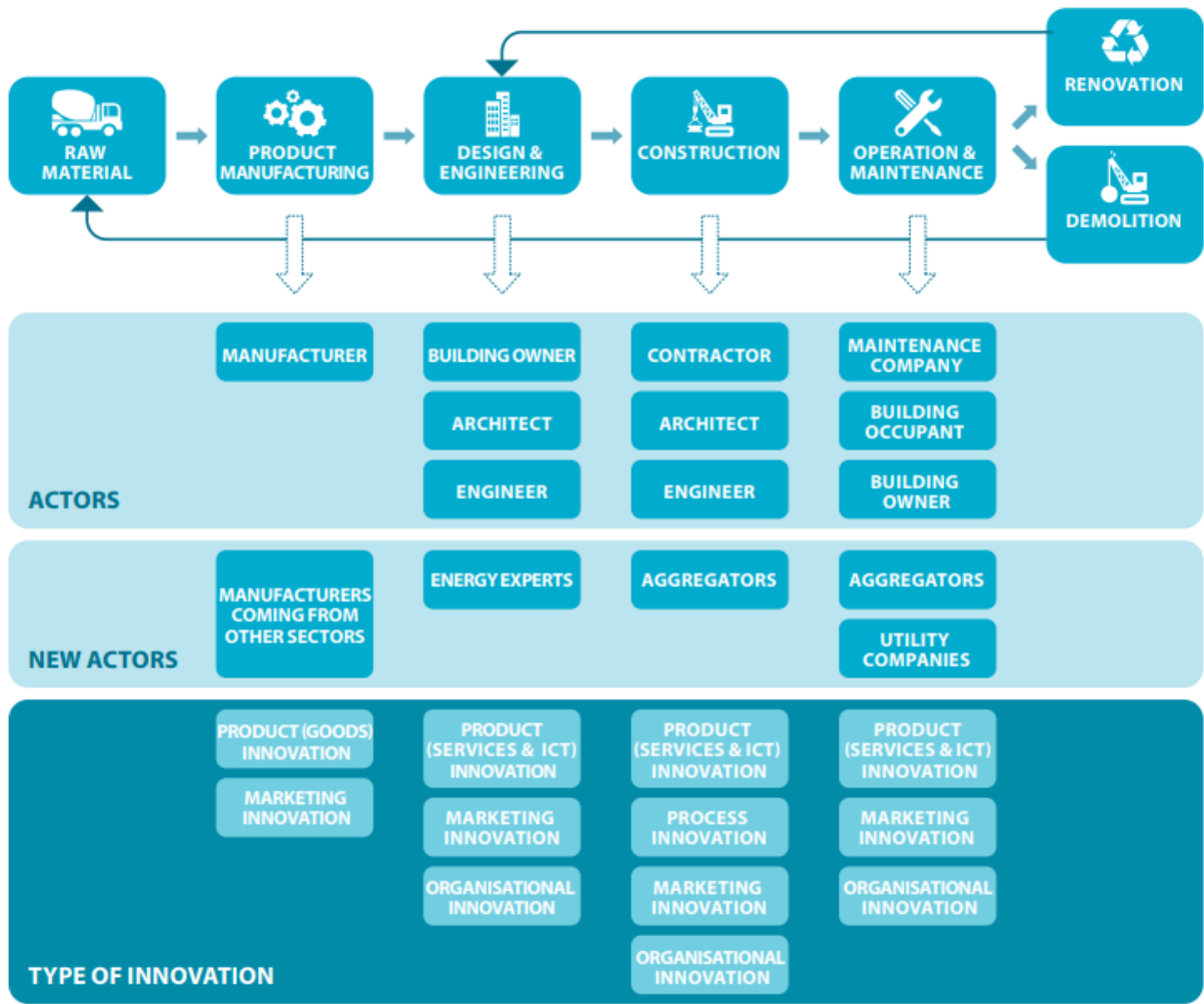
⁷ Brady, T., Davies, A., & Gann, D. 2004

⁸ De Groote, Maarten and Lefever, Marianne. 2016

The concentrated services that bridge various steps in the value chain are more complex than traditional suppliers, however, the client or the energy user has to deal with only one or few suppliers, which makes **the process more convenient, and ideally more trustful.**

There is a good place for “one-stop-shops” in almost any value chain related to energy efficiency. The following graph shows the construction value chain, and the places where organisational innovations, i.e. new, combined offers by OSS could be placed (Figure 1).

Figure 1. Mapping the building process, its actors and the potential innovation



Source: BPIE 2016⁹.

While only a 7 of 23 examples of energy renovation OSS were identified from before 2010 in Europe, they and their support programmes are sprouting today. Of the 7 examples from before 2010, only 3 are still operational. This is not to say that they are wide-spread today, but **2-3 OSSs were located in all of the Nordic countries, in France and the Benelux countries as of 2018.**

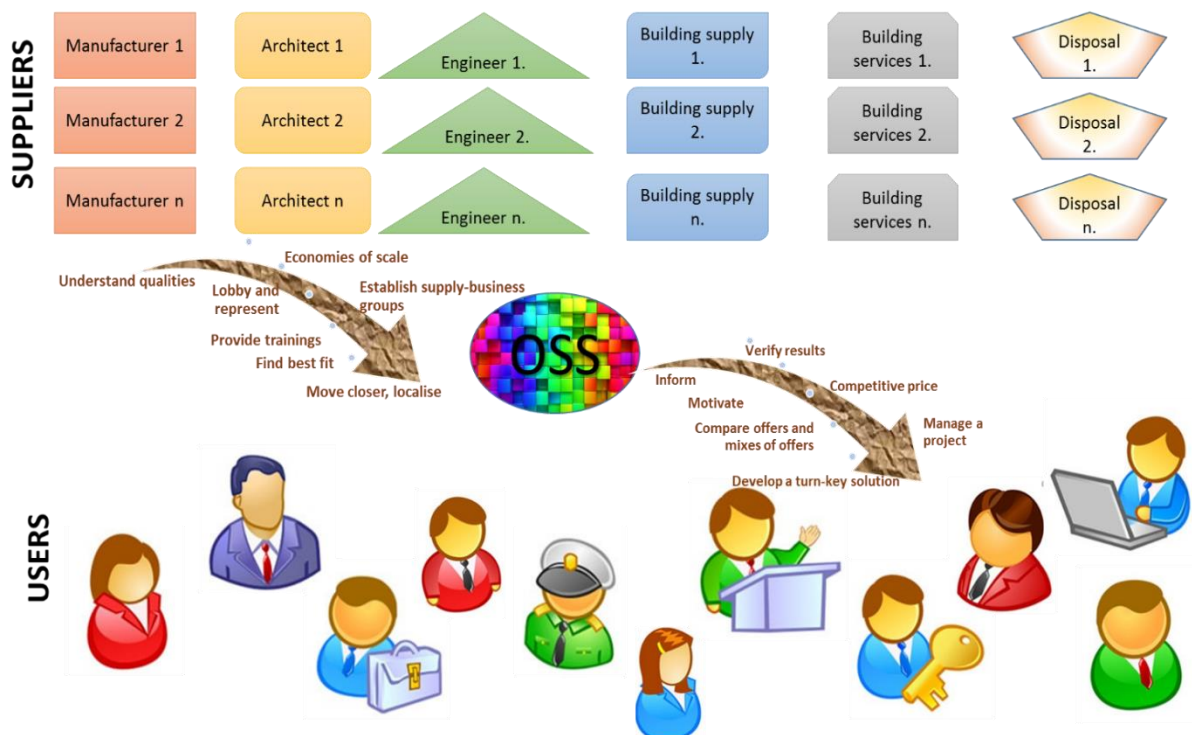
They are also **being evaluated, understood and replicated**, as shown by the research projects: regional (Nordic), national (e.g. French) and EU research and innovation projects explore the best business setting, the psychological and economic backgrounds, etc.

⁹ De Groote, Maarten and Lefever, Marianne. 2016

With the growing popularity, comes a need for a more precise definition that can allow a clear diversification from similar business models and concepts. It can also then develop into quality assurance and clarity on what the business offers for clients.

The following figure (Figure 2) simplifies **the place and role of the OSS among other actors.**

Figure 2. The intermediary role of OSS, and some of the benefits and advantages it can offer to both sides

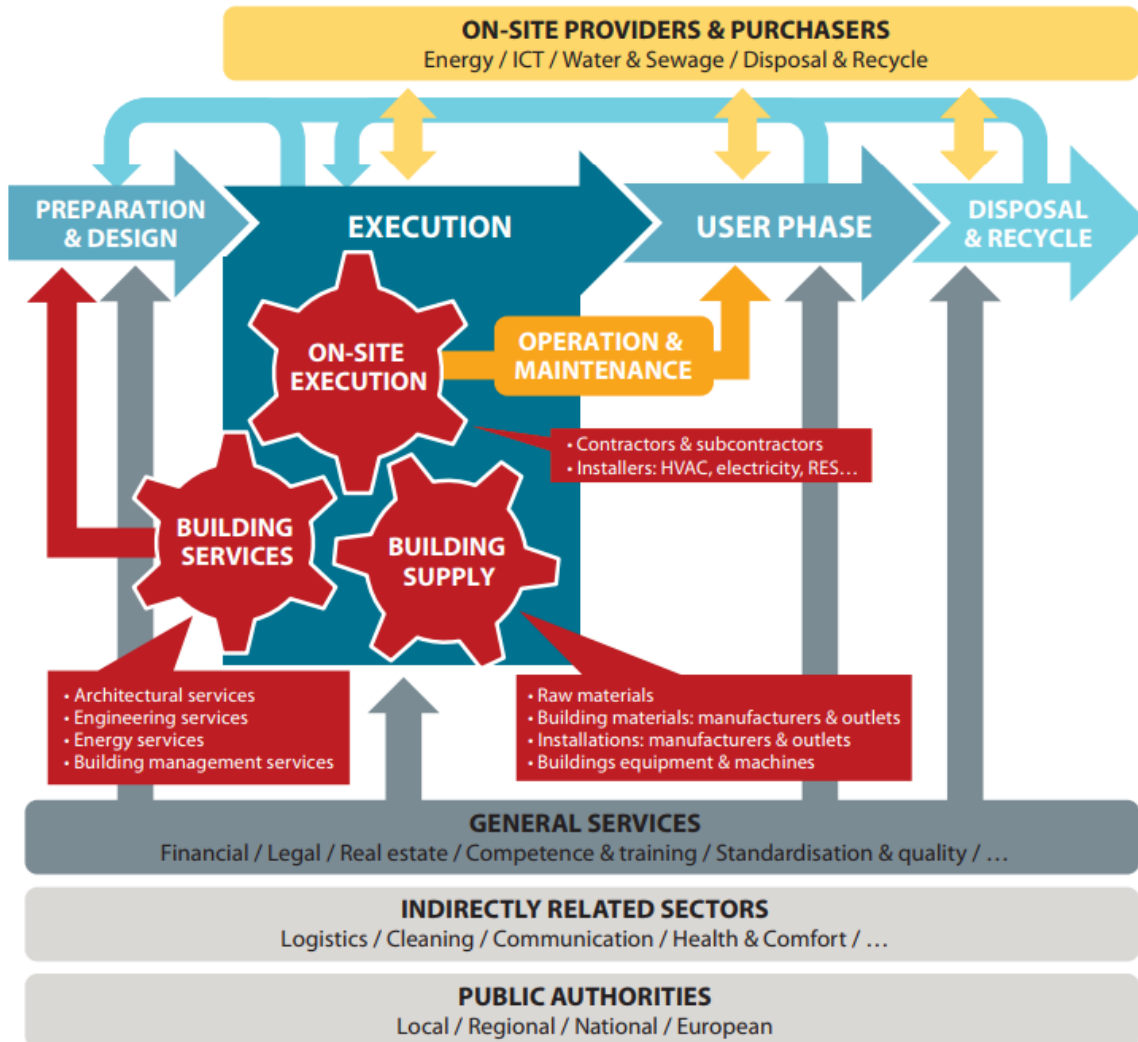


Own graphic¹⁰

The role of an OSS is many-folded and varies depending on the specific example. In general, we can consider it as an **intermediary point of contact** (Figure 3) that translates the fragmented supply side, e.g. designers, suppliers, installers, financiers into one offer to the homeowners. On the other hand, the one-contact point is also valuable for the suppliers, who often find it difficult to manage the transactions towards their potential clients due to the varied requirements, lot of resources for awareness raising, extra visits and/or visits to customers who will finally not contract them, etc.

¹⁰ Source of the icons: <http://gfx9.com>.

Figure 3. Interlinkages between stakeholders in an energy efficiency value chain. An OSS will combine several of these functions.



Source: BPfE 2016¹¹.

There have been similar services in the market (such as Energy Service Companies or ESCOs, facilitators, consultants), and it is important to distinguish them from the OSS, in order to ensure transparency in the market and avoid free-riders or false expectations from the clients.

¹¹ De Groote, Maarten and Lefever, Marianne. 2016

Comparison to ESCOs:

Energy Performance Contracting (EPC) offered by an ESCO is a service, centred usually around the achievement of guaranteed energy savings. A third-party (the ESCO) enters into arrangements with property owners to improve energy efficiency of their site/building by implementing a set of measures that are defined by them (even if in consultation with the owners).

ESCOs take up some or all of the risks, and their fee is paid from the energy /utility cost savings or at least based on the performance of the implemented measures.

ESCOs may also finance or arrange for financing for the projects. ESCOs often keep the operation of facility and/or provide the energy supply for an agreed period of time.

ESCOs typically act in the industry and the public sectors because of larger project sizes and more reliable energy consumption patterns.

In principle, ESCOs are not involved in awareness raising, motivation and follow-up of projects only to the level that allows them to maximise their profits.

The OSS concept is slightly different although it presents many similarities. OSS usually assist building owners throughout the entire process. They usually have strong focus on general knowledge sharing, raising awareness, and convincing homeowners to commit to energy efficiency improvements. They will offer pre-defined packages of renovation options, and/or work with building blocks of renovation measures that can be fit and fixed for the clients. They collaborate with local suppliers usually, and the client can select from the (preferably long list) of possible contractors based on competitive offers and often based on an OSS-managed quality assurance.

Mostly, the OSS compiles the offer, which they sub-contract, and the client is only facing one contractor and one invoice at the end.

OSS also has benefits for the suppliers, whom they can train, support with tools, or other means.

Accordingly, OSS are willing to work with small clients, such as single family houses or multi-apartment buildings.

The two (EPC and OSS) can be combined, and an ESCO may be interested to enter into the OSS niche, and by investing resources in the customer-care part of the value chain, gain more contracts on this fragmented market.

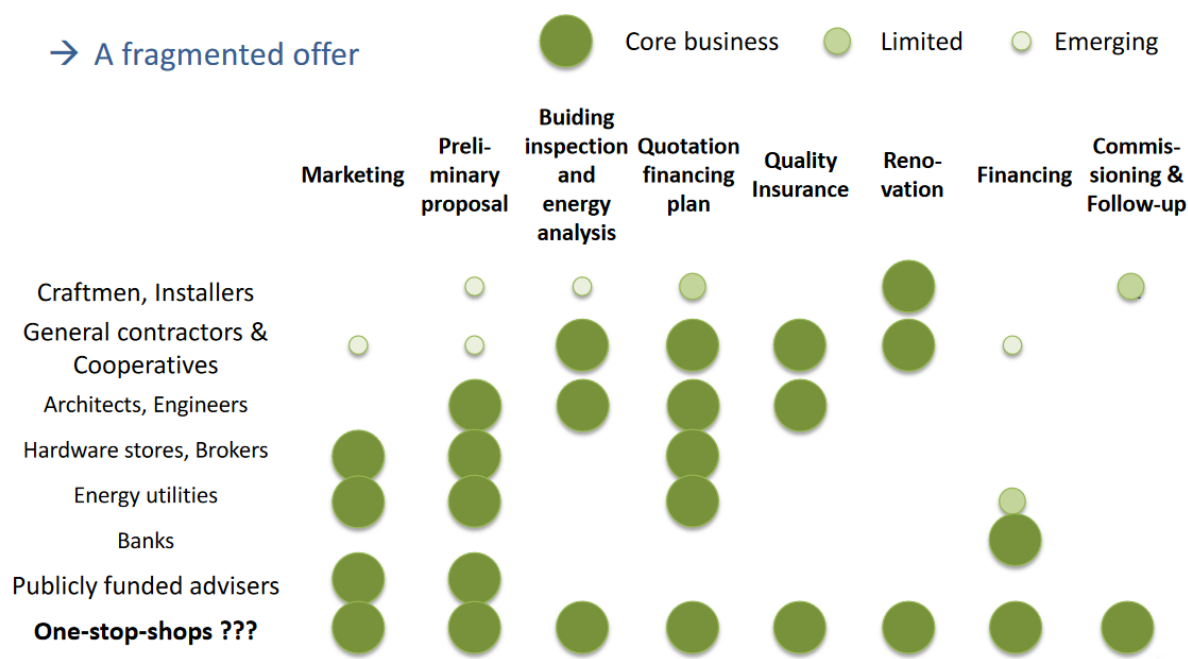
Comparison to advisors and facilitators:

Traditional energy consultants may walk the client through a longer process of the renovation project, but they will rather focus on shorter frames (e.g. audits, feasibility studies, follow-up monitoring). They are probably even more independent from brands, than some OSS. This is to say that many OSS will focus on being fully independent, but one of the roles of OSS is to help the client select from contractors. For this purpose, they either use their previous experiences, develop a list of suppliers and/or train and qualify the suppliers. At the same time, OSS often guarantee the quality of the service, while energy consultants do not.

Energy consultants do not finance or arrange financing for the operation, as opposed to the usual OSS element. Energy advisors usually walk very closely with the client, and develop the advice exactly based on the customer's needs and situation, while it is more common that OSS have a few basic packages and tailor these to the specific case.

The Innovate project has compared the OSS to a large number of other market actors, such as 1) craftsmen and installers, 2) general contractors and cooperatives, 3) architects and engineers, 4) hardware stores, brokers, 5) energy utilities, 6) banks, 7) publicly funded advisers, and plotted the roles that each of these market players occupy in the value chain as opposed to OSS (see Figure 4).

Figure 4. The role of certain market actors in the renovation value chain.¹²



In addition, other terms are used to refer to the same concept of **“one-stop-shop”**, such as **“Competence House”** (e.g. Bolig Enøk 2012¹³, on page 31), **“observatory”** – in case of a central information tool that supplies many types of related data, or **“turn-key service”** – in the construction/energy supply services.

According to the Financial Dictionary, “one-stop-shops” aim to attract customers and clients by allowing them to save the time and energy they would otherwise spend going to different companies for different activities.¹⁴

¹² Source: https://ec.europa.eu/energy/sites/ener/files/documents/francoise_refabert_-_vesta_conseil.pdf

¹³ Source: http://successfamilies.vtt.fi/SF_D32_20121029F.pdf

¹⁴ Financial Dictionary. n.d. <https://financial-dictionary.thefreedictionary.com/One-Stop+Shop>

3 Case studies, examples

In this section we show-case more than 20 examples that have planned or have implemented "one-stop-shops" (OSS) for energy performance improvement in buildings or at sites/facilities. In addition, research projects that have been targeted at developing the OSS market are also registered.

3.1. Methodology

The current report is a collection of examples of OSS and related research projects to be presented as a registry.

For this research the descriptive case study methodology was used (Mills et al. 2010). As such, certain descriptive data have been collected for all of them. The information to be collected was based on previous research projects, such as the Eracobuild and Refurb (see below), and streamlined by the research team. The information collected here will be used for further analysis in the assessment report, therefore data as well as qualitative information was important to be collected.

The selection of the case studies was based on first a clear definition (see in the introduction), and using a snow-ball technique for identifying as many examples as possible. The geographical focus was placed on the EU, and examples from outside of the EU were included only with references to EU or the research topic relevance (e.g. the "Energy Savers Programme" due to its close focus on residential buildings).

Fact sheets were developed (see in Section 3.2.) and information was collected from document analysis, and interviews (telephone and email).

3.2. Projects vs. business cases

Part 1. of the registry is a collection of **research projects** that explore and/or develop business models utilizing the OSS idea, or disseminate knowledge and information about them. They might also aim to establish actual OSSs, but that is usually not the core goal of them. These projects are:

- Eracobuild
- One Stop Shop project
- INNOVATE
- REFURB
- COHERENO

It is not always evident, whether a research and innovation project should be listed under "support projects" or "OSSs", so this is decided on a case-by-case approach, depending on which aspect of the project is stronger. For example, the Rhodoshop and CLEAR projects were decided to be listed as OSSs, because their primary goal and outcome is the establishment of an OSS (more clearly in the first case, and rather narrowly in the second).

The following factsheet format is used to present the critical details about projects (Table 2).

Table 2. Factsheet for the review of support projects

Title of the project	Project title
Project coordinator	Organisation leading the project
Project partners	Other partners in the project implementation
Geographical coverage	Countries or regions where the project acts (can be smaller or larger than the geographical situation of the partners)
Timeframe	Start and end date of the project
Current status	Planned, running, ended
Predecessor	Projects that can be considered as the previous step of the current project
Sustainability	Projects that build on the current project
Main aims	Brief summary of the content of the project
Key outputs	List of a few, relevant project outcomes
Contribution to the OSS concept	How does the project contribute to the OSS – in terms of research, concept development, network building, etc.
Partnerships (esp. local financing community)	Which actors does the project partner or assist, in particular what the relationship is with the local financing community
Target sector	Which part of the building sector is targeted (if relevant)
Target measures	Which measures (if any) are implemented in the course of building renovation
Social responsibility	Relevance to deep renovation and/or vulnerable citizens
Funding	Source and amount of funding
Further information	Source of information
Contact details	Name and contact details of main contact, if available

In the second part of this section **a registry of working (currently or in the past) examples of one-stop-shops** is presented. The reviewed examples of OSSs can be categorized based on their structures:

- Local-government supported or initiated OSSs;
- Independent consultant based OSSs;
- Industry-driven OSSs;
- Funds or financial credit lines with primary aim to support the financing of energy efficiency market while they boost their services with technical assistance and/or tool.

Almost all of the examples are from Europe, but a few case studies are US-based. The case studies are also presented in a factsheet format, which includes critical information about the OSS. The following template (Table 3) is used as the basis of the factsheets.

The main aim of the factsheets is to show the basic information and contact details, show the level of coverage (local, regional, national) and explain the business model applied. For the latter the **“Business Model Canvas” method has been adapted**¹⁵. This uses **9 essential building blocks to describe a business**, some of which have been adapted to the purposes of these study and thus became:

- 1) key selling points/value propositions;
- 2) a) main aim and b) content of the service/activities;
- 3) target clients/customer segments;
- 4) partnerships;
- 5) expertise at the OSS/key resources;
- 6) channels;
- 7) customer relationships;
- 8) cost of the OSS/revenue streams;
- 9) cost of the service for the clients.

¹⁵ Alexander Osterwalder. 2004

Alexander Osterwalder, Yves Pigneur, Alan Smith, and 470 practitioners from 45 countries. 2010

Table 3. OSS factsheet content

Title of the OSS	The name of the organisation, facility, or arrangement
Auspices	The project or framework within which the project was established or is running, or alternatively it is stand-alone
Host organisation	The company or organisation that has taken up the role of an OSS (existing or new)
Location of the OSS	The location of the office (to compare with the location of the target clients)
Expertise at the OSS	The kind of background/resources that the OSS has
Geographical coverage of the service	The territory that the OSS serves, including information whether the service is local, regional or above
Timeframe	The start date of the OSS if the OSS is already a well-established body, or the period during which the underlying project runs
Current status	Running, planned, closed
Operational details	Pilot, established, mature, replicating
Main aims	The aims that the OSS targets principally
Entry points in the value chain	Which part (if not all) of the value chain the OSS serves
Content of the service	Summary, including what mix of services can the OSS provide
Channels	What communication and action media are offered or used
Customer relations	The type of relationship the OSS has with its clients (personal, online, self-service, etc.)
Key selling point	Main benefits of working with the OSS from both the supplier and the client point of view, and/or the mechanism that make the OSS more successful than individual suppliers
Partnerships (esp. financing community)	Business alliances that make the business model successful. Special attention to the relationship with the local financing community
Target clients	Who can contract with the OSS
Target measures	What kind of energy efficiency improvement measures can be purchased from the OSS
Social responsibility	Relevance to deep renovation and/or vulnerable citizens
Costs of services (business case)	The cost for the client (either the supply or the demand side) to use the OSS services
Results (realized or planned)	Private investment mobilizations, energy savings, RES production, etc.
Costs of the OSS	The budget needed to operate the OSS (annual)
of which public budget	If any grant or other financial mechanism from public budget (European, national, etc.) is used
Further information	e.g. a website, Linked-in group, etc.
Contact details	As advertised by the OSS, or found on the website

3.3 PART 1. Research and innovation projects

3.3.1 Project example 1. Eracobuild project

Background: The construction sector has a major impact on the economy and on the environment. The construction sector has had a high potential for improvements in both efficiency and sustainability (from economic, social and environmental aspects).

However, the construction sector is typically locally organised and conservative. Building on the readiness of national bodies responsible for construction policies to cooperate internationally to change towards more sustainable practices, the project assisted them and the construction sector actors to develop improved cooperation strategies.

Title of the project	ERACOBUILD (Strategic Networking of RDI Programmes in Construction and Operation of Buildings)
Project coordinator	Centre Scientifique et Technique du Bâtiment (CSTB), France
Project partners	35 partners from 22 countries
Geographical coverage (incl. the level)	Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Netherlands, Norway, Poland, Portugal, Romania, Spain, Sweden, Switzerland, Turkey, UK
Timeframe	11/2008 - 04/2012
Current status	Ended, inactive
Predecessor	ERABUILD
Sustainability	ERA-NET was created (inactive), One Stop Shop project was attached
Main aims	To develop deeper, more durable cooperation and coordination between national funding bodies across Europe, to increase the quality and impact of research in the construction sector.
Key actions	<ol style="list-style-type: none"> 1. The development of integral strategies on construction and operation of buildings, integrating economic, environmental and research policies that are often covered by different ministries. 2. Creating a structured dialogue between regional and national policymakers, the EC and sector representatives, through ECTP and associated national technology platforms, in order to match research priorities defined by the sector with research priorities following national and European policies. 3. Enhancing and launching joint activities between ongoing programmes (e.g. in trans-national programmes) on relevant topics. For example, involving SMEs more actively in European RDI could be a topic for a trans-national programme. 4. Advising national governments and the EC on how to further incorporate tools and improve boundary conditions for trans-national cooperation. 5. Bridging the gap between R&D and practice.
Key outputs	<ul style="list-style-type: none"> • Two transnational thematic programmes; • Three joint calls; <p>Through these, the “One Stop Shop” project was created, using the knowledge and tools collected in the Eracobuild project.</p>
Contribution to the OSS concept	<ul style="list-style-type: none"> • Improved collaboration; • Joint themes for funding;
Partnerships (esp. financing community)	Mainly between different levels of governance (local, national, EU), and amongst different sectors
Target sector	n/a
Target measures	n/a
Social responsibility	n/a
Funding	FP7-NMP
Further information	http://cordis.europa.eu/result/rcn/57087_en.html
Contact details	Luc Bourdeau, email: luc.bourdeau@cstb.fr, tel.: +33-(0)49-3956400

3.3.2 Project example 2. One Stop Shop project

Background: Two key barriers to building renovation by local manufacturers, installers, i.e. local SMEs, were identified: the fragmented character on both sides of the renovation process. There are many SMEs doing fractions of renovation measures, and homeowners find it hard to structure information and make decisions. At the same time, the demand of renovation is highly fragmented with varied buildings and homeowners, who are not rational decision-makers. Furthermore, a single-contact service was expected to create the link between the homeowners and the right building companies and to assure quality and financial support at the same time. In effect, this project did not create OSSs, but improving networking, defined supplier business connections, etc.

Title of the project	One Stop Shop project (“From demonstration projects towards volume market: innovations for one stop shop in sustainable renovation”)
Project coordinator	Passiefhuis-Platform vzw (Belgium)
Project partners	BBRI, Belgian Building Research Institute, Flemish Segel AS, Norway, consulting company DTU, Building Physics and Services, Denmark VTT, Finland VTT Technical Research Centre of Finland VCB, Vlaamse Confederatie Bouw, Belgium (Flanders), federations of constructors
Geographical coverage	Belgium/Flanders, Finland, Norway, Denmark (regional/national)
Timeframe	1 September 2010 – 31 August 2012
Current status	Ended
Predecessor	Eracobuild project and SuccessFamilies project
Sustainability	No direct follow-up
Main aims	To create a volume market for holistic, deep renovation of houses and investigates how potential clients can be motivated to perform an integral and deep energetic retrofit. Making the fragmented building renovation market accessible for SMEs (which are the majority of renovation suppliers).
Key outputs	The project did not create OSSs, but rather facilitated a networking and collaboration system in the localities selected. <ul style="list-style-type: none"> Established collaboration strategies (workshops) Explored the prerequisites of deep-renovation Guidelines: How to develop a business model for One Stop Shop house renovation Online template for creating OSS Tool websites
Contribution to the OSS concept	<ul style="list-style-type: none"> Conceptual basis of collaboration Review of webtools for collaboration Guidelines and tools that help the establishment of an OSS
Partnerships (esp. financing community)	SMEs that are involved as front-runners on the renovation market of the residential sector. No special focus on financing.
Target sector	single-family and multi-family buildings
Target measures	n/a
Social responsibility	Explores the possibilities to motivate homeowners to aim for nZEB or PassivHaus standards. Pilots included a focus on social housing.
Funding	Funding was provided by IWT (Flanders); Nordic Innovation Agency (Norway and Denmark); Tekes, VTT, City of Porvoo, ARA (Finland) and Formas & Swedish Energy Agency, Jämtlands county administration, Sweden.
Further information	http://www.one-stop-shop.org/ , Haavik et al. 2012 ¹⁶
Contact details	Johan Cré (johan.cre@passiefhuisplatform.be), Erwin Mlecnik (erwin.mlecnik@passiefhuisplatform.be), Irena Kondratenko at Passiefhuis-Platform

¹⁶ Trond Haavik, Synnøve E. Aabrekk, Erwin Mlecnik, Johan Cré, Irena Kondratenko, Satu Paiho, Matilde Grøn, Sanne Hansen, Joeri Aleksander van der Have, Jeroen Vrijders, Knut Mostad. 2012

3.3.3 Project example 3. INNOVATE

Background: Specific barriers on the homeowners' side to energy refurbishment in the residential sector will be addressed. Depending on where the homeowners stand in the decision-making process, different solutions will be offered.

For some, it is not obvious why saving energy is important, and they are not aware of the multiple benefits of energy refurbishments. Others are aware, but do not know what measures they should take, how to finance these, whom to contact and how to start. Still others have problems with renovation costs.

Title of the project	Integrated solutionS for ambitiOus energy refurbishment of priVATE housing (INNOVATE project)
Project coordinator	Energy Cities
Project partners	Vesta Conseil et Finance (FR), Aradippou Municipality (CY), Brussels Environment (BE), AGENEX (ES), Frederikshavn Municipality (DK), Heerlen Municipality (NL), KAW (NL), Linnaeus University (SE), Litoměřice Municipality (CZ), Mantova Municipality (IT), Parity Projects (UK), Riga Energy Agency (LV).
Geographical coverage	11 target territories in 10 EU Member States (NL, DK, BE, LV, CZ, CY, SE, IT, ES and UK)
Timeframe	2017-06-01 to 2020-05-31
Current status	Running
Predecessor	Builds on good examples, e.g. Reimarkt (pg. 26), Retrofit Works (pg. 25)
Sustainability	Not yet known
Main aims	<p>To motivate homeowners to carry out deep energy retrofits of private single-family houses and condominiums. In order to facilitate the process, the project will develop and roll out energy retrofit packages, ideally offered in one location. The elements of the business model will be:</p> <ul style="list-style-type: none"> • Engagement process, communication and marketing tools; • Energy renovation and financial plans, independent advice and technical assistance; • Tailor-made products; • Coordination of the chain of suppliers/contractors; • Guaranteed results, ensuring high quality standards.
Key outputs	<p>The two key outcomes are 1) pre-set, attractive renovation packages that homeowners can select from and which can be tailored, and 2) the set-up of business solutions, among them OSSs.</p> <p>Expected results:</p> <ul style="list-style-type: none"> • 117 pilot buildings, with a target of min. 50% energy savings • To mobilise €37.41 million of private investments • Trigger primary energy savings of 5.38 GWh/year and 3.14 GWh/year of renewable energy production
Contribution to the OSS concept	<ul style="list-style-type: none"> • The concept and actual creation of renovation packages • Establishment of OSS in some of the partner countries
Partnerships (esp. local financing community)	<ul style="list-style-type: none"> • Local authorities • Technical companies • Financing institutions • Independent advisors
Target sector	Private building sector (single-family houses and condominiums)
Target measures	n/a
Social responsibility	The project aims to promote deep renovation
Funding	€1,999,850 (Horizon2020)
Further information	http://www.financingbuildingrenovation.eu/cases/parity-projects/
Contact details	Jana Cicmanova, Energy Cities, email: jana.cicmanova@energy-cities.eu

3.3.4 Project example 4. Refurb

Background: The project is designed on the understanding that homeowners should be assisted in several steps to achieve a nearly-zero energy renovation. They should find information in one place, which is an online tool in the REFURB project. This will help them overcome the lack of understanding of the multi-benefits of refurbishments, and the fragmented offers by suppliers, as well as the alternative financing options.

Title of the project	REFURB (REgional process innovations FOR Building renovation packages opening markets to zero energy renovations)
Project coordinator	Smart Energy and Built Environment (BE)
Project partners	Project Zero A/S (DK), Bouw Francis Bostoen NV (BE), Clean (DK), Fudura BV (NL), Mittetulundusühing Tartu Regiooni Energiaagentuur (EE), Intercommunale Leiedal (BE), Provincie Fryslan (NL), Poslovno Podporni Center (SI), Aalborg Universitet (DK), Isw Institut Fur Strukturpolitik Und Wirtschaftsforderung Gemeinnutzige Gesellschaft Mbh (DE), Bauverein Halle & Leuna Eg (DE), Recticel N.V. (NL), Gemeente Leeuwarden (NL)
Geographical coverage	Denmark, Belgium, the Netherlands, Estonia, Slovenia, Germany
Timeframe	2015-04-01 to 2018-03-31
Current status	Running
Predecessor	n/a
Sustainability	n/a
Main aims	To provide private homeowners with overview, advice and local one-stop-shop solutions in order to compensate the fragmentation of the renovation offers.
Key outputs	An online tool that helps the user define how to obtain a nearly-zero energy standard renovation, with 50-80 % energy reduction, by a step-by-step approach. This translates to a methodology or roadmap for the homeowners. Dedicated renovation packages for different market segments and regions in Europe. The packages also provide information about different possibilities for financing.
Contribution to the OSS concept	<ul style="list-style-type: none"> • Dedicated renovation packages. • Online tool for evaluating the renovation need, and a roadmap for obtaining a nearly-zero energy improvement, and financing. • Conceptual analysis of supply and demand side of the OSS.
Partnerships (esp. financing community)	n/a
Target sector	<ul style="list-style-type: none"> • The primary target is the private residential sector; • But it aims to expand to other market segments.
Target measures	n/a
Social responsibility	Solutions for zero-energy renovation
Funding	€ 2,074,875 (Horizon2020)
Further information	http://go-refurb.eu/ ; http://cordis.europa.eu/project/rcn/194628_en.html
Contact details	Virginia Gómez Oñate, email: virginia.gomezonate@vito.be , tel.: +32 14 33 59 78

3.3.5 Project example 5. COHERENO

Background: The COHERENO project is based on the need to eliminate barriers for collaboration by the renovation supply organisations, providing enterprises with guidance on how to collaborate and on developing services for the different customer segments.

Title of the project	Collaboration for Housing nearly zero-energy renovation (COHERENO)
Project coordinator	Delft University of Technology (NL)
Project partners	Passiefhuis-Platform vzw (PHP) (BE), Flemish Institute for Technological Research (VITO) (BE), Austrian Society for Environment and Technology (ÖGUT) (AT), SEGEL Consulting Company (NO), German Energy Agency (DENA) (DE), Buildings Performance Institute Europe (BPIE) (BE), SINTEF Building and Infrastructure (NO)
Geographical coverage	Belgium, Austria, Norway, Germany, the Netherlands
Timeframe	April 2013 to March 2016
Current status	Ended
Predecessor	Among others: One-stop-shop project (see pg. 14)
Sustainability	Continued partially by Refurb (see pg. 16)
Main aims	To strengthen collaboration of enterprises in innovative business schemes for realising Nearly Zero-Energy Building (NZEB) renovations in single family owner occupied houses. The project focused on eliminating barriers for collaboration, providing enterprises with guidance on how to collaborate and on developing services for the different customer segments.
Key outputs	<ul style="list-style-type: none"> • Nationally recognised public lists of actors in NZEB single-family house renovations; • An overview of structures for successful collaboration between contractors and other actors that are involved in delivering NZEB single-family housing renovation; • Recommendations on how to implement quality assurance in the various business models, specifically aimed at increasing consumer confidence; • National Business Collaboration Events, and the compilation of high potential models for collaborative NZEB renovations of owner-occupied single-family houses; • The enabling of motivated supply actors to launch integrated services of NZEB renovation of single-family houses and the establishing of 24 new business collaborative models
Contribution to the OSS concept	<ul style="list-style-type: none"> • Tools to increase trust and confidence (list of actors, quality assurance system recommendations); • New business models for collaboration and integrated services in the lines of OSS (no details available).
Partnerships (esp. financing community)	n/a
Target sector	single family owner occupied houses
Target measures	n/a
Social responsibility	Promotion of Nearly Zero-Energy Building
Funding	€1,625,130 total budget of which €1,218,847.5 from Intelligent Energy Europe programme
Further information	www.cohereno.eu/about.html www.buildup.eu/en/explore/links/cohereno-project-0 ec.europa.eu/energy/intelligent/projects/en/projects/cohereno
Contact details	Ad Straub, email: a.straub@tudelft.nl , tel.: +31 06 28616426

3.4 PART 2. Case studies of one-stop-shops

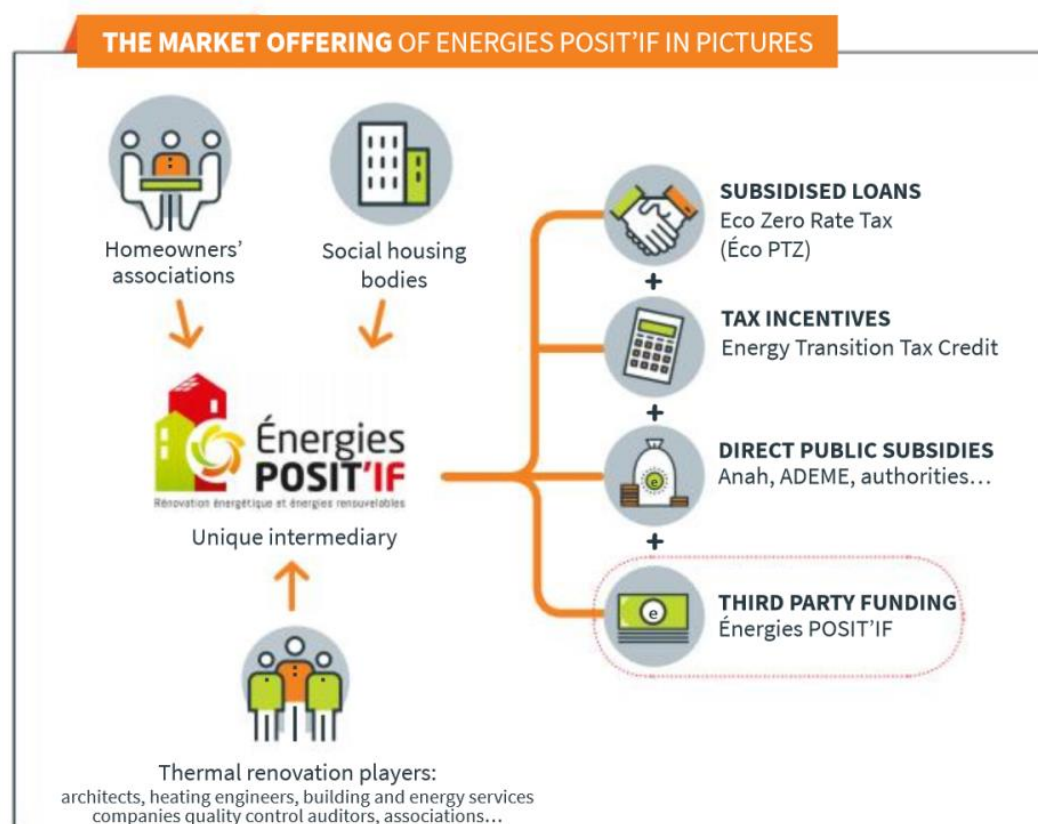
3.4.1 OSS example 1. Energies POSIT'IF

Background: Both the depth and the rate of energy renovation was found to be inadequate to achieve the 38% energy consumption reduction target by 2020 set by Région Ile de France. The available direct public funding of projects was not considered enough to contribute to the target, therefore new, alternative financial schemes were considered in addition.

Title of the OSS	Energies POSIT'IF
Auspices	Promote, Organize, Support, Imagine the energy Transition in Ile-de-France territory (POSIT IF)
Host organisation	A new public-private venture, a Semi-Public Company, to develop an Energy Service Company (ESCO), to offer a whole value chain Hosted by Cité Régionale de l'Environnement
Location of the OSS	Pantin in Ile de France Region
Expertise at the OSS	technical, financial, project management
Geographical coverage of the service	Ile de France Region in France
Timeframe	05/04/2013 to 04/04/2016 (project) 2013 start date of the ESCO/OSS, currently operational
Current status	The project has ended, but the ESCO/OSS is still operational
Operational details	Established
Main aims	To accompany condominiums and social housing organisations in various phases of ambitious energy renovation projects and providing them with organisational, technical, legal and financial engineering services
Key points in the value chain	Awareness raising, renovation, follow-up, financing,
Content of the service	The OSS offers two operational business models. In the first option, the condominiums collaborate with it on developing the plan and potentially in arranging financing, however, the actual implementation remains in the hands of the condominium. Alternatively, the OSS develops the financing and implementation/operation plan. It provides third-party financing (loan directly from the OSS or a bank loan) and can assist in the accession of other funds/grants. It also acts as an intermediary between the owners and the technical partners. The condominiums are in direct contact only with the OSS, and pay a monthly fee for the project and the service. The fee takes into account the energy savings; however it may still be higher due to the selected payment period and/or renovation measures that did not generate energy savings.
Channels	Personal advisers
Customer relations	<ul style="list-style-type: none"> • Personal advice, arrangements: local energy info points, local energy agencies and OSS partners • Meetings with national institutions • Leaflet for final beneficiaries • Website • Newsletters
Key selling point	<ul style="list-style-type: none"> • Energy Efficiency Contracts with Condominiums • Professionals trained on EPC contract management among social housing companies and local governments / municipalities • Advisory mandates performed for social housing companies and local governments / municipalities
Partnerships (esp. financing community)	2 local financial institutions are share holders (la Caisse des Dépôts et Consignations et la Caisse d'Épargne Île-de-France) The OSS is in contract with the bank, and the condominiums repay the debt as part of their monthly fee towards the OSS.
Target clients	Condominiums (homeowners' associations, social housing companies)
Target measures	<ul style="list-style-type: none"> • Deep renovation of residential multifamily buildings and social housing

	<ul style="list-style-type: none"> Renewable energy heating and green electricity production
Social responsibility	The target is achieving the label “BBC Effinergie renovation” (low energy retrofit) which is 104 kWh/m ² /year in the Region.
Costs of services (business case)	The client pays a fee for the OSS services
Results (realized or planned)	<ul style="list-style-type: none"> Average cost of works per condominium is €3 million. Number of contracts signed with condominiums per year: 10 to 15 Total contracts value over 3 years: €60 to 90 million Contracts duration: 15-30 years Internal Rate of Return in multifamily buildings: 4-9% over 15-20 years
Costs of the OSS	€2,061,018 total budget for the project The starting capital of €5.32 million of the ESCO is shared by the Regional Council and Local authorities (85%) and Private partners (2 financial institutions) (15%). To be increased to €15.5 million no annual budget allocated to the OSS
of which public budget	€1,545,763.50 EU budget (Intelligent Energy Europe programme)
Further information	http://www.energiespositif.fr/ https://ec.europa.eu/energy/intelligent/projects/en/projects/posit-if http://www.energy-cities.eu/IMG/pdf/infinite_solutions_iledefranceregion.pdf
Contact details	Jean-Claude Gaillot, email: Jean-claude.gaillot@energiespositif.fr , tel.: +33 – 1 – 53 85 56 80

Figure 5. Working scheme of POSIT'IF¹⁷



¹⁷ Source: http://www.energiespositif.fr/?page_id=2515

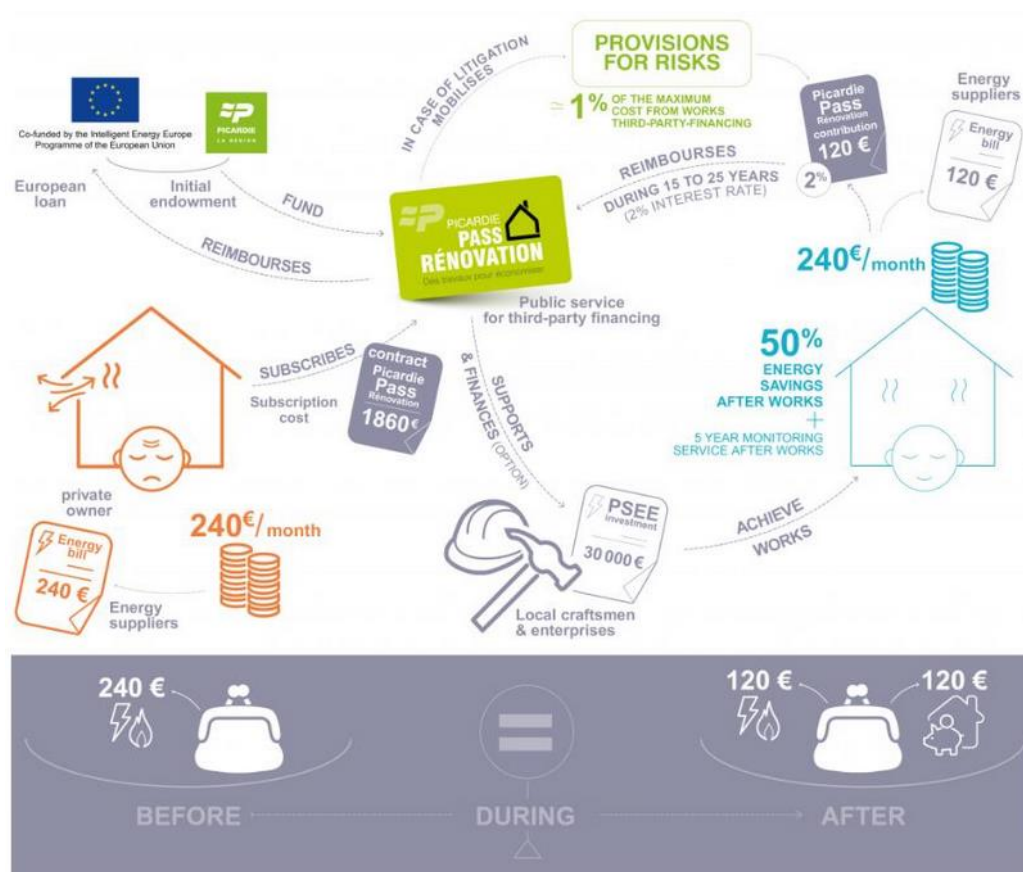
3.4.2 OSS example 2. Public Energy Efficiency Service/SPEE Picardie

Background: The establishment of the services is part of a complex package of measures that the Picardie Region initiated as implementation actions for the Regional Climate Air Energy Scheme 2020 and 2050.

Title of the OSS	Public Energy Efficiency Service/ SPEE Picardie
Auspices	Established by the Regional Council of Picardie
Host organisation	Regional Council of Picardie
Location of the OSS	Amiens, France
Expertise at the OSS	Technical, financial, project management
Geographical coverage of the service	Picardie Region, France
Timeframe	05/04/2013 to 04/04/2016 (project) 2013 start date of the ESCO/OSS, currently operational
Current status	Running, planned, closed (of the OSS and/or the project)
Operational details	Pilot, established, replicating
Main aims	To pilot ambitious renovation projects with technical, financial and informational assistance, which could be further replicated and multiplied in the following 5 years
Key points in the value chain	Marketing, integration, financial advice, financing, assessment
Content of the service	<p>An integrated service for the energy renovation of residential buildings, which offers advice, accompaniment, and financing of thermal retrofit projects of private homeowners. In this context, the service includes:</p> <ul style="list-style-type: none"> • local offerings of advice and works • thermal audit and advice to households • financing solution • accompanying homeowners during and after the works <p>Thus, the following initiatives were taken:</p> <ul style="list-style-type: none"> • Creation of an Energy Information Space = network with 15 advisors • Management of contractors by local actors (e.g. Globe 21, MEF of Vermandois) • Regional experiment with zero interest rate loans for energy efficiency and renewable energy investments for residential homeowners (10.000 cases in 4 years) <p>The financing of the implementation is usually based on third-party financing (where 85% of the energy cost savings are used for reimbursing the investment costs, and 15% remain with the end-customer), which can be combined with white certificates, and grants.</p>
Channels	Mainly personal, supported by online materials for information
Customer relations	<ul style="list-style-type: none"> • Advice to residential homeowners (realisation of a thermal audit and proposal of measures) • Assistance to the execution of the works (support in choosing contractors, follow-up of the measures, post-works follow-up) • Third party financing ensured by the OSS or by partner financial institutions (long term loan) in accordance with the debt capacity of the homeowner • Long term accompaniment and maintenance of the equipment
Key selling point	<p>Creates economies of scale</p> <p>Accompanies the homeowners along the whole process</p> <p>Creates groups of suppliers</p>
Partnerships (esp. financing community)	<p>With local construction actors (who can get training)</p> <p>With local financial services for third-party financing</p>
Target clients	Residential buildings
Target measures	<p>Scenario 1: Insulation of walls, roofs, floors, double glazing, ventilation</p> <p>Scenario 2: Scenario 1 + thicker insulation</p> <p>Scenario 3: Scenario 2 + triple glazing on North side + dual flow mechanical ventilation + heat pump</p>

Social responsibility	Targeting deep renovations to achieve between 50-75% energy savings
Costs of services (business case)	The average cost of the measures is 30.000 € VAT excl. for a home and 15.000 € VAT excl. for an apartment.
Results (realized or planned)	The ambition is to renovate 2000 residential homes over a 3 year period with 50 to 75% energy savings, the creation of 33 direct jobs and 650 indirect jobs in the construction sector. Over the next 5 years, 10,000 renovations per year, with €300 million investment and the creation of 3,500 jobs in the construction sector.
Costs of the OSS	The financing need for the operator of the SPEE is 58 M€ for 2000 projects: €50 million for the works €8 million for the operations (agency, renovation technicians, pilot sites, first loss guarantee fund)
of which public budget	Total amount (?)
Further information	http://cityinvest.eu/content/spee-picardie http://www.pass-renovation.picardie.fr/
Contact details	Email: contact@picardie-spee.fr , tel.: +33 (0)810 140 240

Figure 6. The SPEE Picardie scheme.¹⁸



¹⁸ Source: <http://www.pass-renovation.picardie.fr/project-funded-by-europe/>

3.4.3 OSS example 3. CLEAR project

Background: Homeowners should be helped to purchase RES installations for the main needs of a home, including heating/cooling, electricity and domestic hot water, because barriers such as lack of information, difficulty in selecting the best technology, trust in the quality and high prices restrict the wider use of these ready technologies.

Title of the OSS	CLEAR – group procurement
Auspices	CLEAR - enabling Consumers to Learn about, Engage with and Adopt Renewable energy technologies
Host organisation	consumer associations
Location of the OSS	In various cities in Belgium, Italy, Spain, Portugal and The Netherlands
Expertise at the OSS	Procurement, consumer protection, technical testing (quality testing) of onstallations
Geographical coverage of the service	Belgium, Italy, Spain, Portugal and The Netherlands
Timeframe	01/03/2014 to 28/02/2017
Current status	Closed (no information about the OSS)
Operational details	Pilot
Main aims	To establish group purchasing initiatives in various EU countries
Key points in the value chain	Installation of RES, financing
Content of the service	<p>The central part of the initiative is to actively guide consumers in through all the stages leading to the purchase of Renewable Energy Systems for self-generation of electricity and heat.</p> <p>In order to comprehensively facilitate this the following components have been put together:</p> <ol style="list-style-type: none"> 1) Group purchasing, a way to collectively buy solar panels, heat pumps, or wood pellets for stoves to help you reduce purchasing costs for sustainable energy systems and ultimately the energy bill of your company or home 2) Creating a renewable energy web community to share experiences and know-how. 3) ‘Hooking’ consumers with independent and expert information gained out of laboratory tests on micro-generation technologies 4) Personalised decision-making tools: an interactive tool enabling consumers to find out which technologies are suitable for their needs and property; or investment tools enabling householders to find out how long it might take for a system to pay for itself and how much money and energy they could save.
Channels	Online tools, personal advice if needed, online community, peer-to-peer information, examples
Customer relations	Online tools, website, personal contact with consumers via information sessions, personal help desks, newsletters, building on established communities and channels at the consumer organisations
Key selling point	Group purchasing, thus economies of scale
Partnerships (esp. financing community)	n/a
Target clients	citizens
Target measures	solar PV modules, solar thermal collectors, heat pumps and wood pellet stoves
Social responsibility	RES installation, quality is checked through tests
Costs of services (business case)	The cost for the client (either the supply or the demand side) to use the OSS services
Results (realized or planned)	26 group purchases completed more than 170 renewable energy systems tested
Costs of the OSS	€3,888,330 total cost of the CLEAR project
of which public budget	€2,410,764.60 (Intelligent Energy Europe programme)
Further information	http://www.clear-project.eu/ https://ec.europa.eu/easme/en/news/want-reduce-your-energy-bill-save-money-interested-producing-and-consuming-your-own-renewable
Contact details	n/a

3.4.4 OSS example 4. Rhodoshop Programme Development Unit (PDU)

Title of the OSS	Rhodoshop Programme Development Unit (PDU)
Auspices	Rhodoshop project: a pilot programme to facilitate investment in energy efficiency by creation of One-Stop-Shop in Rhodope Region of Bulgaria
Host organisation	Sofia Energy Center Ltd. (existing host)
Location of the OSS	Sofia, Bulgaria
Expertise at the OSS	n/a
Geographical coverage of the service	Rhodope Region of Bulgaria (currently six with the possibility to include others in the future)
Timeframe	01-09-2017 to 31-08-2020 (the underlying project)
Current status	Running, but for now limited to the timeframe of the project
Operational details	The project is piloting the OSS
Main aims	To assist local governments to launch and implement sustainable energy projects
Entry point in the value chain	Financing, tendering
Content of the service	The OSS acts as a central procurement agency on behalf of local authorities to undertake energy retrofitting works in their buildings and street lighting systems. Rhodoshop PDU will combine/bundle suitable projects in the subscribed municipalities in order to gain critical mass and get better financing terms.
Channels	n/a
Customer relations	n/a
Key selling point	<ul style="list-style-type: none"> • Bundling of similar projects • Cheaper services because of group purchase • The OSS follows the Green Public Procurement principles (clients do not need to be trained on this)
Partnerships (esp. financing community)	<ul style="list-style-type: none"> • Project developers, Project contractors • ESCOs, • banks
Target clients	<ul style="list-style-type: none"> • local public authorities • other stakeholders in small sized rural municipalities
Target measures	Building renovation
Social responsibility	Green procurement
Costs of services (business case)	n/a
Results (realized or planned)	<ul style="list-style-type: none"> • mobilizing € 11.5 million investments for energy efficiency improvements in 42 public buildings and € 1.7 million investments for refurbishment in street lighting networks in 46 settlements of Rhodope Region. • energy savings of 8,8 GWh/year • renewable energy production of more than 0,5 GWh/year
Costs of the OSS	€ 470,550
of which public budget	€ 470,550 (EU Horizon2020)
Further information	http://cordis.europa.eu/project/rcn/210315_en.html
Contact details	Violetta Groseva, Manager, email: sec@sec.bg , vgroseva@sec.bg , tel.: (+359 2) 962 8443

3.4.5 OSS example 5. Småland-Blekinge pilot OSS

Background: About 80 % of the two million detached houses in Sweden are more than 30 years old and in need of renovation. However, the rate of energy renovation of detached houses is rather slow.

Title of the OSS	To be decided later
Auspices	One-stop-shop business model for energy renovation of detached houses (a study)
Host organisation	The host is not yet known, the Linnaeus University is developing a business model for the future OSS
Location of the OSS	Växjö, Sweden
Expertise at the OSS	n/a
Geographical coverage	The four pilots are located in the Småland-Blekinge region
Timeframe	1 September 2016–31 August 2019 (the underlying project)
Current status	Running (the project)
Operational details	Pilot/study
Main aims	Testing an OSS business model for energy renovation of detached houses, whereas different suppliers cooperate to offer homeowners a cost effective and energy efficient renovation through the mediation of a single actor.
Entry point in the value chain	The OSS compiles offers from all suppliers from all the parts of the value chain of a building renovation, as a construction. Since the business model is being developed currently, the further entry points are not yet fixed (e.g. financing, operation, etc.).
Content of the service	A full-service for holistic renovation packages, including: Consulting, Independent energy audit, Renovation work, Follow-up (independent quality control and commissioning), Financing
Channels	No information yet
Customer relations	No information yet
Key selling point	<ul style="list-style-type: none"> • One point of contact. • The OSS also arranges financing. • The OSS can translate the fragmented demand side for the small suppliers. • Through collaboration, small suppliers may attract more buyers. • For the society, an OSS can overcome the “piecemeal approach”, i.e. implementing only small parts of a renovation, and not reaching deep enough, cost-effective, and optimal refurbishment levels.
Partnerships (esp. financing community)	No information yet
Target clients	Homeowners of detached houses (four buildings in this project) Small-sized suppliers (SMEs usually)
Target measures	Renovation of detached houses, and financing
Social responsibility	n/a
Costs of services (business case)	n/a
Results (realized or planned)	n/a
Costs of the OSS	n/a
of which public budget	Financier is the Kamprad Family Foundation
Further information	https://lnu.se/en/research/searchresearch/forskningsprojekt/project-one-stop-shop-business-model-for-energy-renovation-of-detached-houses/
Contact details	Krushna Mahapatra, Professor, Department of Built Environment and Energy Technology of the Linnaeus University, email: krushna.mahapatra@lnu.se , tel.: +46470767813

3.4.6 OSS example 6. Retrofit Works

Background: Based on the concerns that SMEs had not enough capacity to participate in the Green Deal policy (whereby consumers can pay for energy saving works using a loan attached to the electricity meter and repaid using the savings generated), local SMEs decided to cooperate and create a delivery scheme that could bring them on the market and benefit the consumers, too.

Title of the OSS	Retrofit Works
Auspices	A cooperative owned by community based organisations and local supply chains (also part of the INNOVATE project, see pg. 15)
Host organisation	Parity Projects (energy efficiency consultancy)
Location of the OSS	London
Expertise at the OSS	Technical, financial and project management
Geographical coverage of the service	The UK (national)
Timeframe	Started in 2013
Current status	Running
Operational details	Operational since 2013, start of trading in 2015 (with EU support from 2012)
Main aims	To design and host energy efficiency and retrofit schemes on the one hand, and to enable local SMEs to collaborate and generate a delivery model whereby the green deal policy could be used.
Entry point in the value chain	Advise, quality assurance
Content of the service	<p>The OSS acts as an intermediary between SME suppliers and customers. In effect the OSS does not participate in the implementation, but in the preparatory and follow-up works. The service is the following:</p> <ul style="list-style-type: none"> Householders are assessed, 3 quotes are generated from the energy survey from local SME companies via the online tool; All installer Practitioner members are quality vetted, and referenced; A grant scheme assessment is made for householder circumstances.
Channels	Online tool, office (personal visits are done by the members)
Customer relations	n/a
Key selling point	<ul style="list-style-type: none"> OSS controls ensure best service and a transparent delivery model; Value for money for the property owner by creating competition amongst members; Cost reduction due through economies of scale; For the SMEs, access to the retrofitting market after the Green Deal; Combination of different financing schemes.
Partnerships (esp. financing community)	The structure of the OSS is a cooperative. No information about financial institutions
Target clients	Homeowners
Target measures	n/a
Social responsibility	Special deals with fuel poor
Costs of services (business case)	Market based, but competitive
Results (realized or planned)	n/a
Costs of the OSS	Profits are returned to the cooperative membership – either directly, or as the members deem fit. For example, assisting in the provision of discounted training programmes and certification schemes or funding capital works for fuel poor households.
of which public budget	Also uses EU H2020 project Trade Association support
Further information	http://retrofitworks.co.uk/
Contact details	Email: info@retrofitworks.co.uk, Tel: +41 0330 123 1334

3.4.7 OSS example 7. Reimarkt

Title of the OSS	Reimarkt
Auspices	Market based public company
Host organisation	New company, self-standing start-up
Location of the OSS	Several locations in the Netherlands (currently 6 locations: Enschede, Delft, Den Bosch, Groningen, Zoetermeer, Hoogeveen)
Expertise at the OSS	Technical, administrative, project management, architecture, etc.
Geographical coverage of the service	Municipality level in the Netherlands
Timeframe	A company that was set up in 2014
Current status	Running (the OSS)
Operational details	Operational, and replicating in new municipalities
Main aims	To make homes energy-efficient and reduce home expenses for home owners, residents' associations, and tenants.
Entry point in the value chain	Reimarkt acts as broker between renovation suppliers and building users in the renovation step. Assists grant and financial solution access.
Content of the service	<p>The OSS is labelled as a convenient shop for sustainable living. Tenants and home owners are offered turnkey solutions to extend their home, ameliorate comfort, or improve the looks of their home while improving energy performance. The solutions come with a guarantee on price, comfort level and energy reduction. Projects are funded through the rent, own funds, or by taking out a loan. The OSS is aware and is able to offer alternative financing options.</p> <p>The OSS bundles the offers of small, local supplier, thus markets their offers and matches them with the retrofit needs. These suppliers have no capacity and knowledge to widely disseminate their products, therefore Reimarkt helps in actually selling their products, contribute to product development, customer care and takes on marketing.</p> <p>The OSS does not act as energy advisors, but build on users' requirements with standardized building blocks, yet tailored full solutions.</p> <p>The OSS's offer for the demand side include:</p> <ul style="list-style-type: none"> • Create desire, spread messages, inform, provide benchmarks; • Tools that assist clients to make decisions; • Fast: entering data about the energy use and receive evaluation (a report sent and followed-up); • Fast: photo-application (no visit) and offer in 1 hour; • Monitoring platform – online, but can get personal advice.
Channels	Mainly online, but visits at the office (personal advice), exhibitions, no home visits
Customer relations	<ul style="list-style-type: none"> • Online tools • Websites, newsletters • Pop-ups: shows in the neighbourhood
Key selling point	<ul style="list-style-type: none"> • Traditional suppliers have no capacity, so the OSS assists them in business development and customer care. • Customers receive a step-by-step and active approach. They can access assistance at various decision-making levels and only these are traded to them (not the whole information-package that would be overwhelming). • Reimarkt operates in actual offices, like shops, and also online. Customers can choose where to turn, and can combine the two. • The basic customer service is without visiting the homes, using online tools. The follow-up is very fast. Reimarkt never waits for the customer to act, but they keep in touch with them. • Energy retrofit is piggybacked on other renovation desires (e.g. extensions, aesthetics, etc.)
Partnerships (esp. local financing community)	n/a
Target clients	<ul style="list-style-type: none"> • Owners and tenants of private housing <p>(Tenants and owners are treated equally)</p>

Target measures	Energy efficient retrofits piggybacking on other retrofits
Social responsibility	No (market based)
Costs of services (business case)	Kick-back fee of 10% from the suppliers. (no profit yet – as of 2017)
Results (realized or planned)	<ul style="list-style-type: none"> The OSS has assisted 10.000 contacts, of which 1.750 invested in energy efficiency, and max. 5% uses financing (2014-2017)
Costs of the OSS	n/a
of which public budget	Start-up grants from local governments
Further information	http://reimarkt.nl/ https://www.youtube.com/watch?v=ktCjLOv9qeE&feature=youtu.be Mieke A.R. Oostra. 2014. Transforming Dutch Construction through Technology. Inaugural lecture Innovative Technology in Construction. Presented on 20 May 2014 in Enschede, the Netherlands
Contact details	Email: info@reimarkt.nl , tel.: +31(0)88 529 00 97

3.4.8 OSS example 8. CleanTech

Background: an industry-driven structure. Its information was analysed under the SuccessFamilies project, whose objective was to speed up the implementation of sustainable renovation of single-family houses¹⁹.

Title of the OSS	CleanTech
Auspices	Subsidiary of Dong Energy
Host organisation	Ørsted (earlier Dong Energy)
Location of the OSS	Denmark
Expertise at the OSS	Sister to the manufacturers, project management, administration
Geographical coverage of the service	Denmark (national)
Timeframe	n/a, probably closed
Current status	Probably closed (?)
Operational details	It was a mature organisation, but closed now (?)
Main aims	Improve customer relations and extend the business
Key points in the value chain	Installation, administrative, financing
Content of the service	Combines the base-offer of heat pump solutions, insulation, windows, solar heating and building thermography with a full service solution in cooperation with partners. Dong Energy takes care of advice, sale and coordination, e.g. handles the necessary paperwork and possible application for a national renovation subsidy and offers financing solutions.
Channels	<ul style="list-style-type: none"> • Dissemination of information: TV campaign • Motivation: Banks refer interested homeowners to Cleantech and can finance the projects • On site visit • Follow-up: telephone, email
Customer relations	Dedicated personal assistance by advisors (one-point-of-contact)
Key selling point	<ul style="list-style-type: none"> • Full service with the traditional products • No paperwork • Assistance in financing
Partnerships (esp. financing community)	<ul style="list-style-type: none"> • Energy utility (service provider) • Various contractors (customer visit and installation) • Suppliers (Rockwool, Danfoss, Velfac) • Bank (Nordea) and mortgage credit institution (Totalkredit)
Target clients	Owners of single family houses <ul style="list-style-type: none"> • Houses with an oil-fired burner • Houses built before the first oil crisis of 1973
Target measures	heat pump solutions, insulation, windows, solar heating and building thermography
Social responsibility	no
Costs of services (business case)	Market based
Results (realized or planned)	n/a
Costs of the OSS	Fully market based from the products
of which public budget	none
Further information	http://successfamilies.vtt.fi/SF_D32_20121029F.pdf
Contact details	n/a

¹⁹ http://successfamilies.vtt.fi/SF_D32_20121029F.pdf

3.4.9 OSS example 9. Adsboll - ProjektLavenergi

Background: an industry-driven structure. Its information was analysed under the SuccessFamilies project, whose objective was to speed up the implementation of sustainable renovation of single-family houses²⁰.

Title of the OSS	ProjektLavenergi
Auspices	A product of the mother-company
Host organisation	Adsboll
Location of the OSS	Denmark (no more precise information)
Expertise at the OSS	project management, administration, financing
Geographical coverage of the service	South Demark, mainly Kolding (local/regional)
Timeframe	n/a, probably closed
Current status	Probably closed (?)
Operational details	It was a mature organisation, but closed now (?)
Main aims	Increase energy efficiency of the buildings in the area
Key points in the value chain	Renovation, financing
Content of the service	Offers and organises holistic energy efficient renovation in connection with execution of needed renovation. The holistic renovation is based on the concept of external air tightening and insulation of the house. The service includes advice, on-the-site audit, full project management and assistance in financing. Provided training and mentoring to local craftsmen.
Channels	<ul style="list-style-type: none"> Dissemination of information in local newspapers, company web site and separate pilot project web site Information on key partners' web sites "Open house" arrangement (pilot project) Direct contact to existing customers of need of renovation (follow-up)
Customer relations	Dedicated personal assistance by advisors (one-point-of-contact), information disseminated about the service, follow-up
Key selling point	<ul style="list-style-type: none"> Piggybacks on otherwise planned renovations Personal visits to the homeowner Free of charge on site analysis, technical analysis and fixed price offer for relevant energy efficient renovation Advice on financing
Partnerships (esp. local financing community)	<ul style="list-style-type: none"> Local utility company – energy advice department (Trefor-energy), responsible for the energy examination of the house. Producers of façade and roof windows, façade insulation system, ventilation system etc. Bank and mortgage credit institution Green Business Growth partnership – support on PR, organization and campaigns.
Target clients	Owners of single family houses, mainly those built in the 1970-80's; mainly the area of Kolding in the region of south Denmark/Jutland
Target measures	n/a
Social responsibility	no
Costs of services (business case)	Market based
Results (realized or planned)	n/a
Costs of the OSS	Fully market based from the products
of which public budget	none
Further information	http://successfamilies.vtt.fi/SF_D32_20121029F.pdf
Contact details	n/a

²⁰ http://successfamilies.vtt.fi/SF_D32_20121029F.pdf

3.4.10 OSS example 10. ENRA concept

Background: an industry-driven structure. Its information was analysed under the SuccessFamilies project, whose objective was to speed up the implementation of sustainable renovation of single-family houses²¹. It was not offered since 2010, when the core company Rustholli (a renovation service provider) went bankrupt.

Title of the OSS	ENRA concept
Auspices	A product of a group of companies
Host organisation	Core company: Rustholli
Location of the OSS	Finland (no more precise information)
Expertise at the OSS	project management, administration, financing
Geographical coverage of the service	Finland (national)
Timeframe	n/a (closed in 2010)
Current status	Closed
Operational details	It was in a starting phase, now closed (ended in 2010)
Main aims	To extend the businesses of the participating companies
Key points in the value chain	Renovations and financing
Content of the service	A group of companies offering different individual energy renovation services or solutions in a holistic package, including: 1. Marketing 2. Building inspection and energy audit 3. Report with recommendations and energy certificate 4. Fixed price offer for holistic renovation 5. Project management 6. Help obtain approvals from local authorities and apply for subsidies 7. Quality assurance 8. Inspection when renovation is completed 9. Service/after sales 10. Offer guidance on how to use the house in an energy efficient way
Channels	<ul style="list-style-type: none"> • Information about the service in local newspapers, on the website of local house owner's association, on the core company's website • Local information evenings • Home visits • Telephone or other follow-up
Customer relations	Dedicated personal assistance by advisors (one-point-of-contact), information disseminated about the service, follow-up
Key selling point	<ul style="list-style-type: none"> • Holistic service, one point of contact • Advice in behaviour and usage • Assistance in financing
Partnerships (esp. local financing community)	<ul style="list-style-type: none"> • Renovation company (service provider) • Different manufacturers: window and door, ventilation system, insulation, heat pump supplier • Energy auditor and certificate supplier
Target clients	Primarily singlefamily houses from 1940-90's (mainly so called "Veteran houses")
Target measures	The technical solutions offered were energy-efficient windows and doors, heat pumps, internal extra insulation or new insulation, and demand-based ventilation with a heat recovery.
Social responsibility	no
Costs of services (business case)	Market based
Results (realized or planned)	n/a
Costs of the OSS	n/a
of which public budget	none
Further information	http://successfamilies.vtt.fi/SF_D32_20121029F.pdf
Contact details	n/a

²¹ http://successfamilies.vtt.fi/SF_D32_20121029F.pdf

3.4.11 OSS example 11. Bolig Enøk

Background: an industry-driven structure. Its information was analysed under the SuccessFamilies project, whose objective was to speed up the implementation of sustainable renovation of single-family houses²².

Title of the OSS	Bolig Enøk
Auspices	A daughter company of Glava AS
Host organisation	Glava AS
Location of the OSS	Askim, Norway
Expertise at the OSS	project management, administration, financing
Geographical coverage of the service	Østfold, Akershus and south east of Oslo (Norway) (regional)
Timeframe	Started in 2011
Current status	Mature, but reformatted (as of 2017, the company seems to work as an advisor/facilitator rather than a holistic service provider)
Operational details	Operating
Main aims	To extend the business of the mother company and customer care
Key points in the value chain	Renovations and financing
Content of the service	Homeowners employ a “Project Manager”, who provides technical analysis, recommendations and project management of the full renovation process. The Project Manager takes care of contacts with all involved actors such as main contractor, subcontractors, authorities as well as assisting in applying for relevant grants. The homeowner is invoiced for the complete project by Bolig Enøk, which thereby takes on the risk towards the customer.
Channels	<ul style="list-style-type: none"> • Information about the service in local newspapers, in the magazines of local house owner’s associations • Local community environment plans • Local information evenings • Home visits • Telephone or other follow-up
Customer relations	Dedicated personal assistance by advisors (one-point-of-contact), information disseminated about the service, follow-up
Key selling point	<ul style="list-style-type: none"> • Holistic service, one point of contact • Assistance in financing
Partnerships (esp. local financing community)	<ul style="list-style-type: none"> • Building product supplier (service provider) • Contractors • Local retail stores • Various partners with expertise in building physics and energy and heating. (Sintef, Glava, KVT)
Target clients	Owners of single family houses from 60-80’s in selected areas in the region of Østfold, Akershus and south east of Oslo, who are creditworthy to increase their mortgage loan.
Target measures	The technical solutions offered were energy-efficient windows and doors, heat pumps, internal extra insulation or new insulation, and demand-based ventilation with a heat recovery.
Social responsibility	no
Costs of services (business case)	Market based
Results	n/a
Costs of the OSS	n/a
of which public budget	none
Further information	http://successfamilies.vtt.fi/SF_D32_20121029F.pdf https://boligenok.no/
Contact details	n/a

²² http://successfamilies.vtt.fi/SF_D32_20121029F.pdf

3.4.12 OSS example 12. BetterHome

Background: Uncertainty is one of the reasons why the renovation rate continues to linger around 1% and private investments remain limited. A more service-oriented supply-side together with a deeper awareness on the demand-side may be able to change the play.

Title of the OSS	BetterHome
Auspices	Market-based, industry-driven company
Host organisation	Self-standing OSS, launched by supply-side actors Danfoss, Grundfos, the ROCKWOOL and VELUX Groups
Location of the OSS	Frederiksberg, Denmark
Expertise at the OSS	Manufacturers, installers, project management, financing, training
Geographical coverage of the service	Denmark, and recently launched in Sweden
Timeframe	Started in 2014
Current status	Running (the OSS)
Operational details	Operational and extending in geographical and service terms
Main aims	To offer homeowners burden free, organised renovation opportunity to improve energy performance and indoor climate, based on standardised packages.
Key points in the value chain	Based on the products of the four founders, brings together 3500 installers (from 105 organisations), five banks and mortgage providers and four utilities, which will help to renovate the house with these products.
Content of the service	<p>A burden-free renovation process, focused on lowering the energy consumption and improving indoor climate at the same time. In order to inspire homeowners, the OSS offers 3 inspirational packages (Energy Package, Comfort Package and Modernization Package).</p> <p>The homeowner uses an online tool to enter details about their homes and energy consumption, and receive a report and recommendations on renovation measures and offers from local suppliers. The local representative comes to the home to discuss the details and fix the offer. After this is accepted, the local craftsmen carry out the implementation, who are also enabled by training to ensure BetterHome standard, and can use the digital platforms to structure the works.</p> <p>On the financing side, the customer discusses the renovation project with his/her usual bank, and the bank can use the BetterHome tool to refer to the details. The associated banks trust the BetterHome quality and financial characteristics.</p>
Channels	Mainly online
Customer relations	n/a
Key selling point	<p>For the customer:</p> <ul style="list-style-type: none"> • Renovation without much hassle, handled by one contact point; • Holistic process, single flow, single payment, assistance in financing; • Inspirational packages. <p>For the installers/contact points</p> <ul style="list-style-type: none"> • Trainings and guidance on how to approach the customer, from the first contact to the finalisation of the process; • Promotion and marketing. <p>Society:</p> <ul style="list-style-type: none"> • Deeper renovations than average.
Partnerships (esp. local financing community)	Partnered with local banks, who can refer their customer to the BetterHome offers, and vice versa.
Target clients	<ul style="list-style-type: none"> • Mainly single-family houses constructed between 1950 and 1990
Target measures	<ul style="list-style-type: none"> • Mainly deep renovation projects, with investments of ~ €70 000 and energy savings of approximately 30-70%
Social responsibility	Not really (the packages are in growing depth)
Costs of services (business case)	<p>Market based</p> <p>The financial model: no payments between BetterHome and the installers or the building owners. It receives the whole budget from the four founders, who retrieve indirect sale revenues.</p>

Results (realized or planned)	~ 200 projects in 2016, but demand is growing rapidly
Costs of the OSS	After starting in 2014, it became profitable after 3 years. Indirect turnover was ~ €13 million in 2017
of which public budget	n/a
Further information	http://www.betterhome.today/ http://bpie.eu/publication/boosting-renovation-with-an-innovative-service-for-home-owners/
Contact details	Niels Kåre Bruun, administrative director, email: nkb@betterhome.today , tel. +45 35 300 400

3.4.13 OSS example 13. Haarlemse Huizenaanpak

Background: Haarlem is a neighbour to Amsterdam, where 70% of the homes are more than 50 years old, of which 70-80% are in private ownership. Homeowners are usually patriots, and people stay in Haarlem for a long time, own their homes for a long period.

Title of the OSS	Haarlemse Huizenaanpak
Auspices	A non-profit foundation with a revolving fund from the province of North Holland
Host organisation	Newly founded based on earlier initiatives on the sides of all partners, residents – who formed neighbourhood communities, locally active architects and construction businesses – who searched for local clients, municipality – adopted ambitious energy goals and acted as facilitator
Location of the OSS	Haarlem, the Netherlands
Expertise at the OSS	Technical (audit and implementation)
Geographical coverage of the service	Haarlem, the Netherlands
Timeframe	2014 -
Current status	Running
Operational details	Operational
Main aims	The collaboration is rather loose, and aims at ensuring healthy business environment for both clients and contractors
Key points in the value chain	Project definition, advice, renovation implementation, follow-up
Content of the service	<p>The OSS offers a tailored renovation package for residential homeowners and every type of home. The renovation can be built on other aspects than energy and the energy performance improvement will piggyback on it. The OSS provides advice on how the house could be renovated and made more energy-efficient at the same time.</p> <p>The process involves calling, emailing or using the online tool, followed by a home visit, based on which a renovation plan is made. The client can choose the OSS or other contractor to implement the plan.</p>
Channels	Online, email, phone, home visit
Customer relations	<ul style="list-style-type: none"> • Adverts in local media • Meetings in Neighbourhoods • Markets around sustainable living • Neighbourhood initiatives
Key selling point	
Partnerships (esp. financing community)	n/a
Target clients	Private homeowners
Target measures	n/a
Social responsibility	Locally responsible, respect towards architecture
Costs of services (business case)	Market based
Results (realized or planned)	n/a
Costs of the OSS	Initial budget: revolving fund from the province of North Holland
of which public budget	none
Further information	http://bpie.eu/wp-content/uploads/2015/12/COHERENO_final-conference.pdf https://huizenaanpak.nl/
Contact details	n/a

3.4.14 OSS example 14. Oktave

Background: Private houses in France account for 25% of the total national greenhouse gas emissions. The Climaxion program was initiated as a joint effort between the Greater East Region and ADEME to support the territories in the implementation of concrete solutions towards an energy transition. In this context, the Energy-Climate-Air Plans in the Alsace Champagne-Ardenne Lorraine require a rate of energy renovation of the existing building stock of approximately 19,000 homes/year by 2050, including 10,000 single-family homes/year. The launch of the below organisation, Oktave, is part of these efforts to achieve the objectives of the Plan²³.

Title of the OSS	Oktave
Auspices	Municipalities-led OSS, which was also supported by the Intelligent Energy Europe programme. It is part of the Climaxion program, a joint initiative between the Region and ADEME to support the territories in the implementation of concrete solutions in terms of energy transition.
Host organisation	New organisation, founded by the Greater East Region and ADEME
Location of the OSS	Main office in Strasbourg, and 11 other places in the Region (collaborates with 9 local refurbishment platforms set up by local authorities) (local)
Expertise at the OSS	n/a
Geographical coverage of the service	The region of Alsace Champagne-Ardenne Lorraine (currently 9 municipalities)
Timeframe	2017 (the date the Regional Council enacted the decision)
Current status	Running
Operational details	Operational (in the initial stage)
Main aims	To contribute to the Energy-Climate-Air Plans in the Alsace Champagne-Ardenne Lorraine by boosting the rate of energy renovations
Key points in the value chain	Renovation, financing
Content of the service	Oktave offers a holistic service combining technical support and financing of projects. For the moment, Oktave works in collaboration with the Alsace Province. In the future, it will be transformed into a “Société d’Economie Mixte (SEM)”, i.e. a Company of Mixed Economy. It will build partnerships with the local authorities and the local actors, which will be able to be its relays at the spot. Oktave advisers provide personalized support on technical, financial and administrative aspects of the renovation project and are the primary and only contact point for the renovation project. In this journey, Oktave connects homeowners with qualified and referenced professionals. Oktave also helps to set up the financing plan for the works, which can combine grants, tax rebates, and commercial loans. In this context support includes connection with banks for loans, which can be (at the moment) zero-interest loans, or with third-parties/ESCOs in order to repay the loan from the energy cost savings. For the craftsmen, Oktave offers trainings.
Channels	n/a
Customer relations	n/a
Key selling point	Independent, trustful. Compares individual offers by suppliers and pools a holistic solutions.
Partnerships (esp. financing community)	Local authorities and local contractors. No special partnership with banks, but arranges offers from banks and ESCOs
Target clients	Homeowners, at present limited to single family homes
Target measures	n/a
Social responsibility	n/a
Costs of services (business case)	n/a

²³ Source: <https://www.oktave.fr/oktave/financement-europeen>

Results (realized or planned)	The target is to support 2,100 renovation projects over the first four years, and 1500 projects per year from the fifth year.
Costs of the OSS	€ 1.5 million starting grant from the Greater East Region of France (which is representing 50% of the capital of the company).
of which public budget	The starting grant from the Region (€1.5 million), and previously from IEE programme
Further information	https://www.oktave.fr/oktave/qui-est-oktave
Contact details	Région Grand Est - 1 place Adrien Zeller 67000 Strasbourg; email: contact@oktave.fr , tel.: 03 88 15 97 95

3.4.15 OSS example 15. RenoWatt

Background: Energy renovation is a real potential for mobilizing jobs in Wallonia. The energy renovation of Walloon buildings is estimated at EUR30 billion, or 17,000 jobs over the next 30 years.

Title of the OSS	RenoWatt
Auspices	Stand-alone procurement agency
Host organisation	GRE Liège
Location of the OSS	province of Liège, Belgium
Expertise at the OSS	n/a
Geographical coverage of the service	province of Liège, Belgium (local/regional)
Timeframe	Started in 2014
Current status	Running
Operational details	Operational
Main aims	To act on behalf of public authorities to assist in renovating their own existing buildings
Key points in the value chain	Information, audits, financing
Content of the service	<p>The OSS is a procurement agency, acting on behalf of public authorities that undertake energy retrofitting works in their own existing buildings. The agency aims at supporting public authorities, by modelling a system that can be replicated in Wallonia, while promoting employment in the region. The content of services offered to the municipalities:</p> <ul style="list-style-type: none"> • Simplification of the tendering process; • Technical audits conducted by the one stop shop and identification of the prospective investments; • Drafting financial plans (analysis of the financial return); • Procurement of EPC's (from the draft of the specifications, to the negotiation with the ESCOs); • Identification and pooling of buildings; • Search for funding.
Channels	n/a
Customer relations	n/a
Key selling point	<ul style="list-style-type: none"> • only one provider (or a consortium of companies) is contracted, which offers a full range of services and responsible for all services (design, production, operation) • guaranteed savings
Partnerships (esp. financing community)	<ul style="list-style-type: none"> • Public-public cooperation between the agency and the municipalities • No information about partnerships with banks
Target clients	Municipalities and their existing buildings
Target measures	n/a
Social responsibility	Not known
Costs of services (business case)	n/a
Results (realized or planned)	<ul style="list-style-type: none"> • 5 EPC with guaranteed energy savings: covering a total of 136 buildings • Savings of 34% of energy consumption are guaranteed, which represents a reduction of 7545 tonnes of CO2 equivalent. • EUR 59 million investments generated in 3 years • 322 direct jobs and 780 indirect jobs mobilized (design / works / maintenance) • 16,450 hours of training and / or use of social economy enterprises • 12 public authorities involved in the project including a hospital
Costs of the OSS	EUR 2 million initial investment (financed by EEEF)
of which public budget	Total (EEEEF)
Further information	http://www.gre-liege.be/renowatt/25/renowatt.html
Contact details	n/a

3.4.16 OSS example 16. Tighean Innse Gall

Background: TIG works on the premises that they offer the local people, local actions from local contractors. Local actions entail a special value for citizens, because national policies often prioritise urban over rural, cities over villages, mainland over islands, etc. Public policies also prefer simple solutions and difficult cases are often shunned. For example, different building types are not readily captured.

Title of the OSS	Tighean Innse Gall (TIG)
Auspices	none
Host organisation	Stand-alone organisation
Location of the OSS	Stornoway, Isle of Lewis, Scotland, the UK
Expertise at the OSS	Technical, marketing, communications, financing, etc.
Geographical coverage of the service	The Western Isles (the UK) (local/regional)
Timeframe	n/a
Current status	Running
Operational details	Mature
Main aims	To enhance local sustainable use of energy
Key points in the value chain	Advice and awareness raising, motivation, technical assistance, audits, financing
Content of the service	TIG is an agency that assists local citizens and businesses in all stages of a renovation project. They offer full implementation, but also energy advice and consultation, assistance in financing arrangements, including adding own resources (e.g. for vulnerable citizens).
Channels	Variety of channels, including TV spots, newsletters, online materials, social media, personal advice and home visits, etc.
Customer relations	The most valuable service is the personal advice in the homes. This allows the OSS to fully understand not only the technical, but also the motivational and behavioural aspects of energy use and offer corrections in all aspects.
Key selling point	Local = trust, understanding, available
Partnerships (esp. local financing community)	Works in close partnership with the local authority, the NHS and their Integrated Joint Board, and community planning partnerships
Target clients	principally target the housing, community group and small business sectors
Target measures	n/a
Social responsibility	Yes, special focus on vulnerable citizens and energy poor
Costs of services (business case)	n/a
Results (realized or planned)	n/a
Costs of the OSS	n/a
of which public budget	If any grant or other financial mechanism from public budget (European, national, etc.) is used
Further information	https://www.tighean.co.uk/
Contact details	Stewart Wilson, email: info@tighean.co.uk , stewart@tighean.co.uk

3.4.17 OSS example 17. Stroomversnelling

Title of the OSS	Stroomversnelling (previously Energiesprong)
Auspices	The Stroomversnelling network consists of contractors, component suppliers, housing providers, local governments, financiers, DSOs (energy system manager) and other parties.
Host organisation	
Location of the OSS	Den Haag, the Netherlands
Expertise at the OSS	n/a
Geographical coverage of the service	The Netherlands (national)
Timeframe	2013-
Current status	Running
Operational details	Mature, extending towards new types of clients and into other countries
Main aims	To reduce the renovation costs of NZE refurbishments, increase occupants' acceptance of these renovations and increase the dissemination of NZE housing market itself.
Key points in the value chain	Advisory, implementation, project development, financing
Content of the service	The OSS is an independent, market development organisation. They tackle both refurbishments and new buildings: they assist to improve the building energy performance to zero energy. A 30-year performance guarantee on both the indoor climate and the energy performance is complementing the service. New financing is organised for the renovation. The OSS also contributes to regulatory changes related to their field.
Channels	n/a
Customer relations	n/a
Key selling point	Collaboration among contractors, supplier, etc. 30 year guarantee
Partnerships (esp. financing community)	Yes, but no detailed information
Target clients	Single family houses, with multi-apartment houses being involved soon
Target measures	Energy efficiency and RES
Social responsibility	Only Net Zero Energy refurbishments
Costs of services (business case)	n/a
Results (realized or planned)	1300 Net Zero Energy refurbishments have been realised so far and a further 500 Net Zero Houses are being built.
Costs of the OSS	Support from Members of Stroomversnelling, Ministry of Interior and Kingdom Relations, Innovation programme Horizon2020/Transition Zero, Interreg North-West Europe
of which public budget	Total (?)
Further information	http://energiesprong.eu/country/the-netherlands/
Contact details	n/a

3.4.18 OSS example 18. Energy Savers

Background: The territory of Chicago region is the seven counties in northern Illinois surrounding Chicago, comprised over 3.3 million housing units in 2011, and the multifamily housing stock (buildings with five or more units) in this region incorporated 874,107 units. More than two-thirds of these units were built before 1980. The energy consumption of these buildings was enormous, due to the original design and further deterioration. In effect, Illinois ranked second in the USA in 2010, in gas demand per citizen, behind only Alaska, and residential buildings in the Chicago region used nearly 60% more heating energy than the Illinois state average.

By 2007, condominium conversion in Chicago had supplanted energy cost-driven abandonment as the primary means of erosion: over 50,000 Chicago area homes were in foreclosure in 2007, a 50% increase from 2006.

It was then seen by the Preservation Compact and the Center for Neighborhood Technology (CNT) that improving the physical conditions of existing housing stock through retrofits, energy efficiency programs were the way to overcome the above trends, and redevelop a demand for multifamily affordable housing. As part of these efforts, the Energy Savers Programme was created and implemented.

Title of the OSS	Energy Savers Programme
Auspices	An energy efficiency services provider programme
Host organisation	Center for Neighborhood Technology (CNT)
Location of the OSS	Chicago
Expertise at the OSS	Technical, project manager, communications
Geographical coverage of the service	The territory of Chicago region = the seven counties in northern Illinois surrounding Chicago
Timeframe	2008-2014 (?) – now substituted by “Elevate Energy”
Current status	Closed
Operational details	It was operational, but ended in 2014 (?)
Main aims	The program started as a keystone initiative of the Preservation Compact, a public/private commitment to reverse the loss of affordable rental housing supply in the area. The Energy Savers program helped achieve this goal by reducing operating costs for owners of affordable rental properties.
Key points in the value chain	Energy refurbishment (with a cost minimisation aim), and assistance in funding.
Content of the service	<p>The programme fit into a more general system of programmes that aimed at the saving of potentially abandoned apartments/buildings by improving their state and energy performance, thus controlling the tenancy costs.</p> <p>The programme offered homeowners help in:</p> <ul style="list-style-type: none"> • Identifying opportunities in their buildings for energy savings; • Connecting owners to financing options and rebates; • Recommending trusted contractors to do the work; • Overseeing the retrofitting process; • Reporting on the energy savings after upgrades. <p>The programme uses predefined retrofitting packages, which are then tailored to the specific buildings.</p>
Channels	n/a
Customer relations	Not much focus on general information dissemination
Key selling point	<ul style="list-style-type: none"> • Helping those homeowners, who were not so willing to retrofit their buildings, and taking the hurdle off their shoulders. • Focusing on measures that achieve significant savings and are tailored for each building
Partnerships (esp. financing community)	n/a
Target clients	Homeowners in the multifamily buildings in the Chicago region
Target measures	Only highly cost-effective measures, no information about the exact measures.

Social responsibility	Focus on cost-effectiveness, thus not considering deep renovations, however the aim is to save the apartments that are suitable for rent for low-income households
Costs of services (business case)	n/a
Results (realized or planned)	Between 2008 and 2013: <ul style="list-style-type: none"> • audited more than 20,000 units • successfully completed retrofits of more than 7,500 units • Collective savings of over \$6 million
Costs of the OSS	n/a
of which public budget	n/a
Further information	https://rpsec.energy.gov/sites/default/files/reports/c-705_EnergySavers.pdf
Contact details	Peter Ludwig, Energy Efficiency Programs Manager, CNT Energy, email: peter@cntenergy.org , tel.: +1/773.269.4048

3.4.19 OSS example 19. Elevate Energy

Background: The programme can be considered as the continuation and extension of the Energy savers Programme in the Chicago broader territory.

Title of the OSS	Energy Efficient Building Services by Elevate Energy
Auspices	Market-based, stand-alone organisation
Host organisation	Elevate Energy
Location of the OSS	Chicago
Expertise at the OSS	Technical, project manager, communications
Geographical coverage of the service	Illinois
Timeframe	2014 (?) – as a follow-up of Energy Savers programme (pg. 40)
Current status	Running
Operational details	Operational
Main aims	To assist homeowners to implement energy efficiency solutions
Key points in the value chain	Renovation, financing
Content of the service	<p>The OSS offers practical and affordable energy efficiency solutions that reduce utility and maintenance costs. The building services will:</p> <ul style="list-style-type: none"> - Save 30 percent on utility and maintenance costs; - Identify trusted, carefully vetted, local contractors; - Improve the comfort, health, and safety of your buildings; - Provide expert guidance by a mission-based organization committed to helping improve investments. <p>The steps include:</p> <ul style="list-style-type: none"> • An energy analyst conducts a free, full-service assessment and recommend practical improvements that will save energy and water; • The analyst helps to select cost-effective solutions, and solicit bids from qualified contractors. • Financing options are reviewed, the OSS helps to find and apply for rebates, grants, and incentives. • The OSS provides construction oversight and inspect the building once work is complete. • The OSS keeps in touch after the completion of the project by sending annual reports showing the utility bill savings.
Channels	n/a
Customer relations	Not much focus on general information dissemination
Key selling point	<ul style="list-style-type: none"> • Cost savings • Locally trusted contractors • Continued use of buildings • Follow-up
Partnerships (esp. financing community)	n/a
Target clients	<ul style="list-style-type: none"> • Multifamily buildings • 1-4 unit buildings • Nonprofit buildings and childcare centers
Target measures	n/a
Social responsibility	n/a
Costs of services (business case)	n/a
Results (realized or planned)	n/a
Costs of the OSS	n/a
of which public budget	n/a
Further information	https://www.elevateenergy.org/
Contact details	322 S. Green Street, Suite 300, Chicago, IL 60607, email: info@elevateenergy.org , tel.:+1.773.269.4037

3.4.20 OSS example 20. KredEx

Background: Estonia uses two to three times more energy than the Nordic countries even though the average temperature is higher²⁴. The average annual heating energy used in the buildings is 200-400 kWh/m².

Title of the OSS	KredEx
Auspices	Founded under the jurisdiction of the Ministry of Economic Affairs and Communications
Host organisation	Stand-alone organisation, non-for-profit
Location of the OSS	Tallin, Estonia
Expertise at the OSS	Financial, technical, communication, project management
Geographical coverage of the service	Estonia (national)
Timeframe	Established in 2001, with the revolving fund established in 2009
Current status	Running
Operational details	Mature
Main aims	The aims that the OSS targets principally
Key points in the value chain	Financing, which is combined with assistance in grant preparation, technical support, and awareness raising
Content of the service	<p>The core of KredEx is the offers of grants and loan schemes. KredEx provides revolving project finance, under the “Apartment building renovation loan programme” to multi-apartment building owners and housing associations. It also administers grants in the energy efficiency and housing sector on behalf of the Estonian national and local authorities.</p> <p>These programmes are based on a holistic approach, and the financial support is combined with awareness raising campaigns, technical studies, best practice dissemination, and based on an established legal framework. The grantee requires:</p> <ul style="list-style-type: none"> • Obligatory technical consultants • Agreements for post-maintenance have to be established • The audit is required to be done through measurements
Channels	n/a
Customer relations	The Fund is putting considerable effort in promoting more efficient use of energy resources and in raising energy efficiency awareness
Key selling point	The current cycle of grants (2014-2020) targets complex building designs, therefore more complex projects. As a consequence it also requires higher expertise, and thus the employment of technical consultants. The OSS assists in other technical aspects.
Partnerships (esp. financing community)	Yes, with local banks, which are financial intermediaries: Swedbank and SEB
Target clients	Multi-apartment building managers
Target measures	n/a
Social responsibility	n/a
Costs of services (business case)	n/a
Results (realized or planned)	n/a
Costs of the OSS	n/a (the grant volume is €102 million)
of which public budget	n/a
Further information	http://kredex.ee/en/energy-efficiency/
Contact details	n/a

²⁴ Source: <http://kredex.ee/en/energy-efficiency/>

3.4.21 OSS example 21. EBRD credit lines

Title of the OSS	EBRD credit lines: MunSEFF, SlovSEFF, REECL
Auspices	EBRD
Host organisation	Depending on the market and the product, channelled directly (in case of large borrowers), or through an intermediary partner (such as a bank /leasing company/ fund/ utility/ public company/ ESCO).
Location of the OSS	Various places
Expertise at the OSS	Financing, management, communication
Geographical coverage of the service	Slovakia: MunSEFF, SlovSEFF, Bulgaria: REECL
Timeframe	MunSEFF (2010-2015), SlovSEFF (2007-2012), REECL (2006-2015)
Current status	Running and closed
Operational details	Mature and replicating
Main aims	To enhance the transition to modern and well-functioning markets in 36 countries from Central and Eastern Europe, Caucasus, Central Asia and the Southern and Eastern Mediterranean
Key points in the value chain	Financing, combined with support for audit, project selection, verification, awareness raising
Content of the service	EBRD products are divided into debt, equity, and guarantees. The credit lines are often combined with technical assistance and support for policy dialogue. The products are tailored, and the size and conditions can change depending on the local conditions and needs. Tools that facilitate project identification and project evaluation are made available: <ul style="list-style-type: none"> • Lists of Eligible Equipment and Materials (LEME or technology selector) • List of suppliers/installers (LESI)
Channels	n/a
Customer relations	n/a
Key selling point	Besides the grants and loans, clients are provided with technical or informational assistance
Partnerships (esp. financing community)	Liaise with local bank when needed
Target clients	Municipalities, multi-apartment owners/managers
Target measures	n/a
Social responsibility	no
Costs of services (business case)	n/a
Results (realized or planned)	Examples: <ul style="list-style-type: none"> • REECL: Annual electricity-equivalent savings of 237 GWh, 240,000 tonnes of CO₂ estimated emission reductions equivalent to the annual footprint of 55,000 Sofia residents • MunSEFF: Emissions reductions over 15,000 tCO₂/year, Delivered energy savings (heat and electricity) of 58.1 GWh/year
Costs of the OSS	Various
of which public budget	Not relevant
Further information	
Contact details	Not relevant

3.4.22 OSS example 22. Energy Efficiency and Renewable Sources Fund (EERSF)

Background: The energy system of Bulgaria has been the most inefficient in Europe with an energy intensity twice of that of the average, and used to and still offers huge potential for energy savings in a cost-effective way, estimated to be about 40% for the existing building stock, 30% for the district heating sector and 30% for the industry.

As of 2005 there was no operational energy efficiency financing market, and access to commercial financing of energy efficiency investments was obstructed. The EERSF was part of a broader strategy by the government of Bulgaria to align its policies with EU directives, to enable the necessary institutional development and to reduce the energy intensity of the country which at that time was twice the average value of the European Union and was ranking among the highest in Europe.

Despite significant changes in the market environment since 2005, affecting the EERSF program's design and performance, the EERSF continues to be important part of the energy efficiency market.

Title of the OSS	EEE Consortium
Auspices	'Energy Efficiency and Renewable Sources Fund' (EERSF), formerly known as the 'Bulgarian Energy Efficiency Fund' (BEEF)
Host organisation	Independent public private partnership
Location of the OSS	Sofia, Bulgaria
Expertise at the OSS	Financing and advising
Geographical coverage of the service	Bulgaria
Timeframe	Established in 2005
Current status	Running
Operational details	Mature, operational
Main aims	To boost the Bulgarian energy efficiency financing market and contribute to the implementation of the
Key points in the value chain	Financing of energy efficiency and RES investments (renovation and new) with additional technical assistance
Content of the service	<p>The Fund assists clients in developing energy efficiency and RES projects and provides their financing or co-financing or acts as guarantor towards other financing institutions or commercial lenders. The services comprise three parts:</p> <ul style="list-style-type: none"> • Lending • Credit guarantee facility • Technical assistance provision <p>As a lender, the EERSF provides loans at interest rates of between 4,5% to 9% for up to 5 years. A minimum equity contribution of between 10 and 25% is required from project developers, depending on the proposed financing type, i.e.: minimum 10% equity requirement applies to co-financing projects (EERSF and commercial bank lending), the maximum 25% equity requirement applies to projects seeking EERSF-only financing. EERSF focuses on commercially viable projects that use well-proven technologies with maximum payback periods of 5 years, and applicants must undergo detailed energy audits before their projects are considered for funding.</p> <p>EERSF provides partial credit guarantees (PCGs) which can cover either 50% (first loss basis after the bank-creditor) or 80% (pari-passu basis) of a project's total credit value. Individual guarantees are normally capped at €400K. The credit guarantees provided by EERSF are recognised as first rate collateral equivalent to bank guarantees.</p>
Channels	n/a
Customer relations	No special attention on general information dissemination, awareness
Key selling point	Offers credit and/or guarantees with technical assistance.
Partnerships (esp.	The fund encourages combination of financing with local bank offers.

financing community)	
Target clients	<ul style="list-style-type: none"> • Municipalities, hospitals and universities • Small and medium enterprises • Citizens
Target measures	<p>EERSF supports only projects directly related to:</p> <ul style="list-style-type: none"> • Improved energy efficiency in industrial processes; • Rehabilitation of buildings in all sectors including industrial, commercial, municipal and residential; • Improvements to heat sources and distribution systems; • Rehabilitation of municipal facilities such as street lighting; • Other energy end-use applications including energy management control systems, power factor correction measures, air compressors and fuel switching; • Demand side off-grid RES small projects and measures.
Social responsibility	n/a
Costs of services (business case)	n/a
Results (realized or planned)	<p>As of 2014 funding or guaranteeing 170 energy efficiency projects for a total amount of 45.8 BGN (€23.4 million) with a total project investment value of 67,6M BGN (€34,6 million).</p> <p>The 160 projects funded by the EERSF as of 2013 were estimated to have achieved 95.4 thousand MWh/year energy savings and CO2 reductions of 75 kt/year.</p> <p>As of 2014 there were 17 active ESCOs with which EERSF had collaboration agreements, and 4 financial institutions and has general framework agreements for joint operation with 5 other financial institutions.</p>
Costs of the OSS	<p>€9 000 000</p> <p>Initial funding from the Global Environment Fund (GEF) through the World Bank's International Bank of Reconstruction and Development (IBRD), from the Government of Bulgaria, the Government of Austria and from the Bulgarian private sector.</p> <p>Operates as a revolving energy efficiency fund.</p>
of which public budget	<p>During the initial period of 2004-2008, four main donors provided capitalisation to the EEFRS:</p> <p>Global Environmental Facility (World bank): 15,5M BGN (€8.0 million)</p> <p>Government of Bulgaria: 3 million BGN (ca. €1.5 million)</p> <p>Government of Austria: ca. 3 million BGN (€ 1.5 million)</p> <p>Private donors and contributors: 0.4 million BGN (€0.2 million)</p>
Further information	http://citynvest.eu/content/eeefs
Contact details	<p>Energy Efficiency and Renewable Sources Fund, 4 Kuzman Shapkarev Street, 1000 Sofia-Bulgaria, tel.: +359 2 81 000 80, email: info@bgeef.com</p>

3.4.23 OSS example 23. PKA - Sustain Solutions

Background: The pension fund PKA found that their members were looking for investments that could merge sustainability and profit, and therefore they developed a strategy with specific reference to climate change. In parallel, they have created an OSS in Denmark.

Title of the OSS	Sustain Solutions
Auspices	Danish pension fund PKA
Host organisation	Spin-off from PKA and partners
Location of the OSS	n/a
Expertise at the OSS	Financial and technical
Geographical coverage of the service	Denmark (national) (potentially to be extended/replicated)
Timeframe	Start in 2015
Current status	Running
Operational details	Established
Main aims	To follow-up on members' requirement to adopt more sustainable products
Entry points in the value chain	Financing (EPC type), renovations
Content of the service	Holistic solution for renovations that is supported from the Funds resources and the investments are recovered from the utility cost savings. Actual energy savings usually range between 30-60%.
Channels	n/a
Customer relations	n/a
Key selling point	They bridge the gap created because homeowners don't have the capital to invest in energy renovation solutions, which they can offer. Make the process simpler.
Partnerships (esp. financing community)	<ul style="list-style-type: none"> • PKA provides the capital • Smith Innovation provides the experts for the renovations • Dong Energy
Target clients	n/a
Target measures	n/a
Social responsibility	Focus on sustainable projects (wind-farms, energy renovations), required by members
Costs of services (business case)	Market based, no dependency on subsidies
Results (realized or planned)	<ul style="list-style-type: none"> • The first wind park investment in 2011 in Denmark • Today ca. €1.7 billion in four wind parks
Costs of the OSS of which public budget	€40 million investment by PKA none
Further information	https://www.euractiv.com/section/energy/interview/pension-fund-eu-should-promote-one-stop-shop-for-housing-renovation/
Contact details	n/a

4 Conclusion

The “one-stop-shop” finds a niche market to act on because there is fragmentation both on the supply side and on the demand side. On one hand, the clients that would like to engage with a building renovation project find that it requires information, expertise and a complex project management, where the client would have to deal with a large number of various providers, suppliers, be aware of a large number of legal and regulatory requirements, administer large number of certifications, and maybe even apply for grants, loans or other forms of financing. Besides, being time-consuming, it is close to impossible for a regular citizen to establish informed choices about the combination of possible solutions, timings and organisation. An OSS can take this decision process over from the client.

At the same time, the renovation actors (planners, engineers, installers, manufacturers, financial partners, etc.) also find it difficult to engage with single private clients, who need a lot of time-investment in cumbersome information-provision, visits, failed decisions, and the clients seem to be very varied from a supplier’s point of view. They can also benefit the pooling capacity of an OSS.

From the OSS side, extending the offers of a manufacturing or single service firm, or entering as a new entrant into larger sections of the value chain of energy renovation of buildings seems to ensure a more resilient business structure, which is beneficial for the suppliers of OSS. When the recession hit in 2008, trends previously seen only in niche markets became more prominent, and businesses that had strong customer basis based on trust, customer care, and wider range of products could regain customer interest quicker. Yet, this business case is somewhat fragile for the moment, although strengthening. As this report shows, there are many examples where an OSS was established, either on market basis or based on public call (national, international credit lines or local governments).

It is shown through the examples and in this summary, how an OSS is able to bridge the gap between the fragmented supply and demand side.

The majority (16 of 23) of the reviewed examples are currently running, although some have been closed or simply discontinued (6 of the 23), or the pilots not replicated (1 example). Although those OSSs still running are too young to tell what will happen on the long-run, the idea is clearly promising, even on economic terms, shown by the interest from commercial actors at different parts of the value chain. A main challenge for a success of a “one stop shop” model is to have a clear understanding of the house owner needs in the local context and in a broader perspective than pure energy related issues.

A number of OSS examples presented here have been **assisted by public aids** (see the list of examples, point “cost of OSS”, 12 out of 16 operational OSS). While **the industry driven examples, such as BetterHome, Bolig Enok, are market based** (4 of the 16 operational OSS), **the more complex ones and those that offer a truly wide variety of tailored solutions to the clients have been receiving public funds** (for example, POSITÍF, SPEE Picardie, Oktave, etc.).

It is important that **more research is made to collect more information** about the financial viability of such structures, and the **possible transition from individual examples to mass marketing is identified**. The actual performance of the market-based and non-market based OSS should be explored.

4.1. The value chain entry points

An example of the various points of intervention where an OSS assists the client is well illustrated with the business model of Elevate Energy (Figure 7, see in full on pg. 43). The steps and the content of the offer-elements can vary greatly and different business models may add or miss some elements. It is important that the business models are adapted locally.

Figure 7. The full service approach.



Source: Elevate Energy 2018²⁵

Boosting the renovation rate of the building stock in Europe is not only a political target. It is an inevitable challenge in order to lower the energy consumption, as well as to keep the structural integrity of the buildings. The problem is aggravated by the reality of inadequate and poor housing causing high energy bills, health issues and a lower quality of life.

But there are good sides. Buildings are an exceptional investment opportunity, with the capacity to boost the economy and generate local jobs. The energy renovation market is estimated to be worth €109 billion and to generate 882,900 jobs in Europe (data in 2015)²⁶. Yet, the potential is far greater.

Since uncertainty is one of the reasons why the renovation rate continues to linger around 1% and private investments remain limited, there is a need for a paradigm shift in the approach to building renovations, whereas a more service-oriented supply-side together with a deeper awareness on the demand-side play key roles. "One-stop-shops" can help in just that.

²⁵ <https://www.elevateenergy.org/for-building-owners-managers/energy-efficient-building-services/>

²⁶ BPIE. 2017 based on Renovate Europe Campaign 2015

Table 4. Response of OSS to barriers to energy efficiency in the buildings sector.

Barriers as listed in Table 1. (page 3.) ²⁷	Solution by an OSS
Lack reliable and credible information	Promote EE in general, and provide detailed information about renovation packages, possible interventions, solutions, benefits. OSS can develop quality control, quality assurance systems, and may require partners to pass a certification/training.
Lack of implementation capacity (e.g. shortage of technical skills)	OSS partners with a number of technical partners, and ensures a balanced and coordinated collaboration. The OSS acts as the manager of the renovation project.
Risk aversion	An OSS can guarantee the technical and financial viability of the project. By developing quality assurance systems, the clients can trust the partners more.
Lack of national/local commitment	OSS usually partner with local actors, and thus develop the local businesses.
Governmental internal procedures that discourage EE in public buildings	OSS can also help in the administration and paperwork.
Poorly designed public policies that undermine price signals	Price signal is important for an OSS service.
Budget constraints	An OSS helps to identify the financially most appropriate intervention package for the client. If needed, assists in loan/grant acquirement.
Lack of long term financing solutions at moderate costs	If needed, assists in loan/grant acquirement.
High transaction costs due to small projects	Pools projects from the client and from the supplier point of view.
Unattractive financial returns	OSS helps to develop a financial meaning for the project.
Unreliable payments	Single-point of contact.
Split incentives	Some OSS specifically target both owners and tenants.
Suboptimal solutions due to insufficient information	The OSS has role in identifying the most adequate intervention package and can design a single or a step-by-step intervention package.
Fragmented building trades, multiple professionals involved in different stages and different decision processes.	Single entry OSS.

²⁷ ESMAP. 2014.

4.2 OSS support projects

The following projects have been reviewed that support the set-up, the operation, the quality assurance or other parts of an OSS (Table 5).

Table 5. Overview of projects that support the development or the operation of OSSs

Project title	Coverage	Timeframe	Key aim
Eracobuild (“From demonstration projects towards volume market: innovations for one stop shop in sustainable renovation”)	35 partners from 22 countries	11/2008 - 04/2012	To develop deeper, more durable cooperation and coordination between national funding bodies across Europe, to increase the quality and impact of research in the construction sector
One Stop Shop project	Belgium/Flanders, Finland, Norway, Denmark	1 September 2010 – 31 August 2012	To create a volume market for holistic, deep renovation of houses and investigates how potential clients can be motivated to perform an integral and deep energetic retrofit.
INNOVATE	NL, DK, BE, LV, CZ, CY, SE, IT, ES and UK (11 territories in 10 countries)	2017-06-01 to 2020-05-31	To motivate homeowners to carry out deep energy retrofits through using energy retrofit packages, ideally offered in one contact-point, an OSS.
REFURB (Regional process innovations FOR Building renovation packages opening markets to zero energy renovations)	Denmark, Belgium, the Netherlands, Estonia, Slovenia, Germany	2015-04-01 to 2018-03-31	To provide private homeowners with overview, advice and local one-stop-shop solutions in order to compensate the fragmentation of the renovation offers.
COHERENO (Collaboration for Housing nearly zero-energy renovation)	Austria, Belgium, Germany, the Netherlands, Norway	April 2013 to March 2016	To strengthen collaboration of enterprises in innovative business schemes for realising Nearly Zero-Energy Building (NZEB) renovations in single family owner occupied houses

4.3 “One-stop-shop” examples

After reviewing the support projects, the report gave a registry of OSS examples. Some of the key features are reviewed below.

Types of OSS

The OSS role has been seen to be taken-up by various actors, and sometimes, actors that are not primarily seen as energy renovators were found to take a role, e.g. pension funds (such as PKA - Sustain Solutions).

Industry-driven: These are manufacturers or installers that aim to extend their businesses or improve customer care (e.g. Reimarkt, CleanTech, ProjektLavenergi, etc.)

Consultant-driven: They develop their original customer-related businesses, e.g. by extending the types of services, in order to reach more customers (e.g. CLEAR, Tighean Innse Gall, etc.)

ESCO-driven: Building on their complex offerings, they extend and reclassify their value-added solution-parts. (e.g. partially CLEAR, Posit’if, and EBRD credit lines, etc.)

Local government driven: Their programmes are mostly driven by climate and/or energy considerations, sometimes by social targets. (e.g. Energies POSIT’IF, SPEE Picardie)

Cooperative-type: Aims mostly at the societal benefits, not necessarily focused only at energy savings/cost savings (e.g. Haarlemse Huizenaanpak, Retrofit Works, Tighean Innse Gall). Although, e.g. Tighean Innse Gall is an energy agency type, but was grouped here because they hold a very strong local development and social benefits approach.

Target clients

In the large majority of the cases across the world, OSS target residential buildings, and mostly private residential buildings, and for EU in its initiatives (e.g. Smart Finance for Smart Buildings), the focus is on how to capture the energy saving potential lying in the existing private buildings stock.

Nevertheless, in the reviewed registry, there are OSSs that specialize in condominiums, local governments, or even renewable energy investments, etc. Therefore, the following table reviews the announced target sectors by the OSS in our registry.

Table 6. Main clients targetted by the reviewed OSS.

Note that the targets named on the publicly available sources are quoted here, while some OSS may be open to accept clients from other sectors.

OSS Title	Residential buildings			Public buildings
	Single, private	Private condominiums	Social housing	
Energies POSIT'IF		*	*	
SPEE Picardie	*	*		
CLEAR	*	*		
Rhodoshop Programme Development Unit				* (RES)
Småland-Blekinge pilot OSS	*			
Retrofit Works	*			
Reimarkt	*	*		
CleanTech	*			
ProjektLavenergi	*			
ENRA concept	*			
Bolig Enøk	*			
BetterHome	*			
Haarlemse Huizenaanpak	*			
Oktave	*			
RenoWatt				*
Tighean Innse Gall	*		*	*
Stroomversnelling	*	*		
Energy Savers Programme	* (in multiapartment buildings)			
Elevate Energy	*	*		*
KredEx		*		
EBRD credit lines		*		*
Energy Efficiency and Renewable Sources Fund (EERSF)				*
PKA - Sustain Solutions				wind parks

Depending on the types of clients, the offers of an OSS differ. Those that **target local authorities**, often aid the authorities to renovate large buildings, offices, or purchase RES installations, carry out green procurement (e.g. Rhodoshop, RenoWatt). They can often pool buildings owned by one single entity, and are able to tailor their services perfectly to the client.

On the opposite, the OSS that assist **private homeowners**, often work with predefined renovation packages (most of the industry-led structures, e.g. Smaland-Blekinge, Reimarkt, CleanTech, ProjektLavenergi, ENRA concept, Bolig Enøk, BetterHome, etc.) and are able to personally explore the clients' specific situation, assist them to select from the packages and tailor these to their needs. This is a way to pool the projects and manage transaction costs.

Benefits of OSS

The benefits of the OSS can be summarized from the point of three viewpoints.

The **private customer** benefits from a number of aspects and depending on its personal capacities (e.g. absolutely non-expert vs. a self-knowledgeable well-informed citizen):

- more information about energy efficiency in general;
- information about high potential improvements in his/her home, tailored advice;
- Single point of contact, single point of payment, i.e. no need to keep in touch with numerous service/product providers;
- Trust can be developed towards one provider – previous results of the provider may be known, and/or guarantee of service;
- Complex approach, instead of possibly step-by-step approach when done on his/her own;
- Evaluation of alternatives;
- Quality control and quality assurance of technical partners;
- Quicker completion;
- Assistance in financing.

Besides providing products for the energy users/asset owners, many of the OSS reviewed here develop partnerships with **local actors** on the supply side (installers, engineers, etc.), and have offers for them, too. For example, they help them by:

- Trainings (either general or specific to the industry-partner's products);
- Tools (calculation tools, installation, monitoring tools);
- New business contacts (and customer care by e.g. newsletters, pop-ups, information stands);
- Improving trust-worthiness by accrediting, quality controlling the local partners.

Naturally, the (market-based) **OSS also benefits** from this construct, as opposed to providing a single solution installations, renovations, or other products. Some of the benefits of an OSS for the suppliers are:

- Becoming more resistant to legal pressures (they can adapt to privatisation, deregulation, liberalization better)²⁸;
- Becoming more resistant to economic pressures (e.g. when volumes of work decline)²⁹;
- Attracting more parts of the value chain, even if they focus on some parts of the value chain, a developed customer relationship can attract the rest of the value-chain investments;
- Establishing more stable partnerships and cheaper solutions;
- Higher customer care (keeping existing and acquiring new customers);
- More product volume sold with the additional service on top.

As it has been shown, a public entity can act as an OSS in order to act for the public targets (climate, energy targets in France), which will have smaller pressure on cost-optimizing.

²⁸ Brady, T., Davies, A., & Gann, D. 2004

²⁹ Ibid.

Assistance in financing

As the above registry shows most of the OSS offer some level of support to access financing for the managed projects. There are different levels in which they contribute.

The private clients are assisted in their project financing in the following ways:

- a) There are organisations, whose basic product is actually the financial product, e.g. EBRD credit lines, and they add the technical assistance, project management, ICT tools on top of this.
- b) An OSS can help the customer develop a financial plan and thus assist in informed choices and decisions (e.g. INNOVATE project, Refurb project).
- c) An OSS can provide its own financing (grant, loan or third-party-financing), e.g. Posit'if (third-party financing), SPEE Picardie (zero-interest loan), or arrange loans/third-party financing (Oktave), Tighean Innse Gall (grants).
- d) An OSS may help the customer identify grant or loan sources (e.g. Retrofit Works, Bolig Enok, Oktave, Tighean Innse Gall).
- e) Or in addition to the previous point, may assist in acquiring these (Reimarkt, CleanTech, Adsboll, ENRA, KredEx through established partnerships with banks and mortgage credit institutions).
- f) Finally, some OSS services expect the customer to get the loan from his/her own loan, but provides custom project documents, guarantees, or financial plans that the bank can use to evaluate the project quickly (e.g. BetterHome).

There are some special structures, for example the group purchase solution by the CLEAR project, where customers' interests for renewable sources are pooled, and better financial terms are achieved by group purchase.

In the report, we have reviewed the following organisations that act as one-stop-shop in one way or the other. The following table summarizes the basic features of each OSS.

Table 7. Overview of the “one-stop-shops” demonstrated in the report.

Title	Geographical coverage	Timing	Conceptual basis	Central element	Role in implementation	Financing	Social responsibility
Energies POSIT’IF	Ile de France Region in France	2013 – (operational)	To help condominiums and social housing organisations to organise projects to achieve high energy performance.	It is a public ESCO, with optional collaboration models for the clients.	Depending on the model, can actually carry out the works (with sub-contractors), and thus single-point of contact.	Arranges bank loans if needed, and can add own resources. In one model, it can even mediate bank guarantee and build the loan in its own fee.	Aims to achieve label “BBC Effinergie renovation” (low energy retrofit)
SPEE Picardie	Picardie Region, France	2013 – (operational)	To pilot ambitious renovation projects with holistic assistance.	Combines various initiatives to improve conditions.	Assistance in all stages, but no implementation per se.	Arranges third-party financing (EPC), combined with White Certificates and grants. No direct funding.	Deep renovations to achieve between 50-75% energy savings
CLEAR	Belgium, Italy, Spain, Portugal and The Netherlands	March 2014 – February 2017	Group procurement to lower costs, combined with a set of other elements to increase trust.	Actively guides consumers in through all the stages leading to the purchase of Renewable Energy Systems for self-generation of electricity and heat	None. Main role is in selection and purchase.	Not central.	Promotion of RES and checking quality through tests.
Rhodoshop Programme Development Unit	Bulgaria	September 2017 – August 2020	To assist local governments by centrally procuring on behalf of local authorities to undertake energy retrofitting works in their buildings and street lighting systems.	Central procurement and bundling suitable projects	None.	Connecting clients with the banks and ESCOs if needed.	Follows the Green Public Procurement principles.
Småland-Blekinge pilot OSS	Småland-Blekinge region, Sweden	September 2016 – August 2019	Compiles offers from all suppliers from all the parts of the value chain of a building renovation.	Single-point of contact for both the clients and the suppliers	Not yet known.	Arranges financing if needed.	Not yet known.
Retrofit Works	The UK	2013 – (operational)	Acts as an intermediary between SME suppliers and customers.	Ensures best service, transparency and value for money – quality assurance. Online audit ->	Assistance in all stages, but no implementation per se.	Assistance in grant acquisition.	Special deals with fuel poor.

Title	Geographical coverage	Timing	Conceptual basis	Central element	Role implementation	in Financing	Social responsibility
Reimarkt	Netherlands (currently 6 locations: Enschede, Delft, Den Bosch, Groningen, Zoetermeer, Hoogeveen)	2014 – 6 (operational)	Bundles the offers of small, local supplier, thus markets their offers and matches them with the retrofit needs. Showers information only relevant for the stage of decision-making road.	3 quotes. Builds energy performance improvements on any kind of home renovation. Assessment is primarily online -> few quotes.	Single-point contact.	of No information.	No
CleanTech	Denmark	n/a, probably closed	Promotion and wider marketing of the product of the mother company in cooperation with partners.	An extension of the manufacturing business. Local contractors are in touch with the customer and install the given products. Service quality guarantee based on training and tools for contractors.	Full implementation with the mediation by local contractors.	Possible assistance with the application for national renovation subsidy and offers financing solutions.	No
ProjektLavenergi	South Demark, mainly Kolding	n/a, probably closed	Promotion and wider marketing of the product of the mother company. The holistic renovation is based on the concept of external air tightening and insulation of the house.	Builds energy performance improvements on any kind of home renovation. Provides training and mentoring to local craftsmen.	Full implementation with the mediation by local contractors.	Assistance in financing.	No
ENRA concept	Finland	n/a (closed in 2010)	A group of companies offering different individual energy renovation services or solutions in a holistic package	Acts as project manager (but no information whether single-point of contact)	No information.	Help obtain approvals from local authorities and apply for subsidies	No
Bolig Enøk	Østfold, Akershus and south east of Oslo (Norway)	2011- (operational)	Homeowners employ a “Project Manager”, who provides technical analysis,	The project manager is the single-point of contact	Taking full management of the implementation, and act as single-point of	Assistance in applying for relevant grants	No

Title	Geographical coverage	Timing	Conceptual basis	Central element	Role in implementation	Financing	Social responsibility
			recommendations and project management of the full renovation process.		contact.		
BetterHome	Denmark, and recently launched in Sweden	2014 (operational)	– Based on the products of the four founders, offers organised renovation to improve energy performance and indoor climate, using standardised packages.	Three standardised packages and local contractors that have been trained and quality assured.	Full implementation with the mediation by local contractors.	The customer discusses the renovation project with his/her usual bank, and the bank can use the BetterHome tool to refer to the details. The associated banks trust the BetterHome quality and financial characteristics.	No
Haarlemse Huizenaanpak	Haarlem, the Netherlands	2014 (operational)	– Tailored renovation package for residential homeowners and every type of home.	Builds energy performance improvements on any kind of home renovation.	The client can choose the OSS or other contractor to implement the plan.	n/a	Locally responsible, respect towards architecture
Oktave	Alsace Champagne-Ardenne Lorraine region (France)	2017 (operational)	– Aims to boost the rate of energy renovations	Personalized support on technical, financial and administrative aspects of the renovation project and are the primary and only contact point for the renovation project.	Single-point of contact	Helps to develop financing plan, combine grants, tax rebates, and commercial loans (arranges zero-interest loans), or third-parties/ESCOs.	n/a
RenoWatt	province of Liège, Belgium	2014 (operational)	– A central procurement agency, acting on behalf of public authorities.	Bundling of projects and providing procurement capacities.	None.	Assists in finding further funds.	n/a
Tighean Innse Gall	The Western Isles (the UK)	n/a, operational	Locally situated agency that assists local citizens and businesses in all stages of a renovation projects.	Combines large variety of programmes from information, advice, monitoring, etc.	Yes, can undertake implementation.	Assists in financing and can add own resources.	Yes, focus on vulnerable citizens.
Stroomversnelling	The Netherlands	2013 (operational)	- Independent, market development organisation that helps market players cooperate and achieve zero-energy level	30-year performance guarantee on both the indoor climate and the energy performance	Yes, they manage the whole process cooperating with local contractors.	New financing is organised for the renovation.	Net Zero Energy refurbishments

Title	Geographical coverage	Timing	Conceptual basis	Central element	Role in implementation	Financing	Social responsibility
Energy Savers Programme	Chicago region	2008-2014	renovations. To reverse the loss of affordable rental housing supply in the area due to abandonment because of deterioration.	Assists homeowners from identification of opportunities with a focus on cost minimalisation. Uses predefined retrofitting packages.	No, connects with trusted contractors and assists in audits, follow-up, monitoring.	Assists in finding financing.	Focus on cost-effectiveness, no deep renovations, but the aim is to save apartments that are suitable low-income households
Elevate Energy	Illinois	2014 – (operational)	Offers practical and affordable energy efficiency solutions that reduce utility and maintenance costs.	Assists homeowners from identification of opportunities with a focus on cost minimalisation. Uses predefined retrofitting packages.	No, connects with trusted contractors and assists in audits, follow-up, monitoring.	Financing options are reviewed, the OSS helps to find and apply for rebates, grants, and incentives.	n/a
KredEx	Estonia	2009 – (operational)	The aim is to support the national energy, climate and building targets.	The core of KredEx is the offers of grants and loan schemes, which are combined with technical assistance in documentation and in implementation.	None.	The core of the service is financing.	n/a
EBRD credit lines	Various places	eg MunSEFF (2010-2015), SlovSEFF (2007-2012), REECL (2006-2015)	The aim is to improve energy performance of the building stocks of the target countries.	The credit lines are often combined with technical assistance, online technical tools, and support for policy dialogue.	None.	The core of the service is financing.	n/a
Energy Efficiency and Renewable Sources Fund (EERSF)	Bulgaria	2005 – (operational)	Assists clients in developing energy efficiency and RES projects and provides their financing or co-financing or acts as guarantor towards other financing institutions or commercial lenders.	The core activity is financing.	None.	The core of the service is financing and guaranteeing.	n/a

Title	Geographical coverage	Timing	Conceptual basis	Central element	Role in implementation	Financing	Social responsibility
PKA - Sustain Solutions	Denmark	2015 – (operational)	Holistic solution for renovations that is supported from the Funds resources and the investments are recovered from the utility cost savings.	It aims to make the renovation process simpler and achieve higher energy efficiency improvement levels.	The partner, Smith Innovation provides the experts for the renovations.	PKA provides the capital	Focus on sustainable projects (wind-farms, energy renovations), required by members

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