

Task 4.2 / D4.4 - WP4 : Business Model and Standard Procedures

STUTTGART



Amt für Umweltschutz

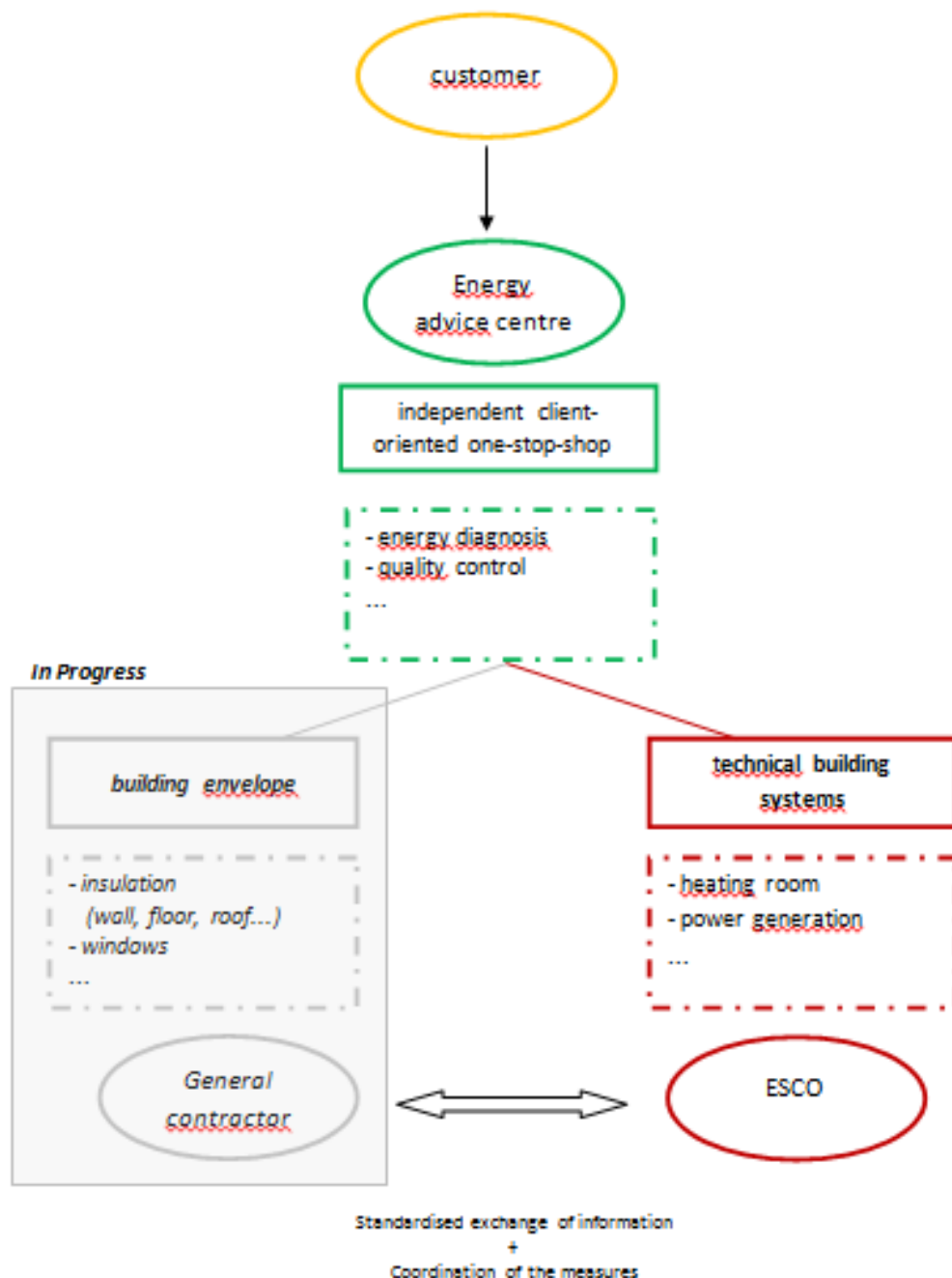
Philipp Wenzel

Innovative Financing for Local Sustainable Energy Solutions

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Business Model

The city of Stuttgart is developing a tailor-made contracting support service for private house owners. A modular design is considered for energy supply contracting for the renewal of heating systems and an all-round carefree package with quality assurance for the building envelope. The contracting support service includes some or all parts of the following services: planning, building and construction, operation and operational optimization, financing, guarantee and risk assumption. Depending on the composition, the service results into different business models.



1) Criteria

a) Eligible measures

The *Stuttgart's all-round carefree package* can be currently used for **residential building** only. The categories of measures covered by the instrument are:

- Installation of decentralised, highly efficient, resource-saving, climate-friendly **technical building systems**: e.g. cogeneration unit, solar thermal energy, natural gas boiler, photovoltaic system
- **Building envelope**: e.g. roof, wall and floor insulation; super insulating glazing; controlled mechanical ventilation (under development)

b) Households concerned

- Stuttgart inhabitants
- Homeowners, landowners or tenants (in agreement with the owner)

c) Type of house

Condominiums of min. 20 residential units:

- In shared property with various owners (rental houses as well as owner-occupied houses)
- In possession of housing companies

d) Specific area

- Is available for all habitants of Stuttgart city districts.

2) Model for the *all-round carefree package*

a) Amount of investment (min-max)

- No limit

b) Maturity

- Contract period: 10 or 15 years (customer's decision)

c) Remuneration for ESCO

Monthly rate (individual offer):

- **Basic charge**: remuneration for investment, planning, installation of the technical building systems
- **Commodity charge**: remuneration for energy supply, operation and maintenance

d) Guarantee

- ESCO:
 - guarantee for the **technical building systems** for the operating time
 - ESCO has its own guarantee system related to its current activities
- Energy Advice Centre:
 - guarantee for the **quality of the refurbishment**

e) Beneficiary's own contribution

- Payment for refurbishment works on the **building envelope** and its investment costs (to the craftsmen involved)
- Payment for basic and commodity charge to ESCO for the **technical building systems** (to ESCO)

f) Incentives

- Independent advice and **guarantee of quality** (“Stuttgarter Sanierungsstandard”) provided by Energy Advice Centre
- Financing and guarantee for the operating time of the **technical building systems** provided by ESCO (operating risks are transferred in total to the ESCO)
- Reliable, certified financiers and construction companies
- Secure energy supply (highly efficient, resource-saving, climate-friendly)
- Optional: independent control body, refurbishment completely from one source (smooth operation)

3) Financial resources for the *all-round carefree package*

a) Budget

- ESCO:
 - equity
 - bank loans (fixed negotiated conditions)
 - public subsidies
- Optional: customer can make an advance payment for construction costs to ESCO so that the basic charges are lower over the contract period

b) Operational costs

- Commodity charge: remuneration for energy supply, operation and maintenance

c) Risks

- ESCO:
 - Operating risks
 - Customer does not pay the rates
 - Liable for errors in construction, planning

4) Organisational Model

a) Role of the Municipality

- Raise awareness on climate protection and energy transition
- Develop an energy concept for the city of Stuttgart
- Communication of the *all-round carefree package* (e.g. Best-Practice-Brochure)

b) Role of the Energy Advice Centre (EAC)

- Energy audit (basis for the general contractor to make an offer)
- Independent consultant referring to reliable, certified financiers and construction companies: EAC guarantees within the contract that the hired craftsmen comply with the « Stuttgarter Sanierungsstandard », which is a set of consistent and high quality refurbishment standards developed by the EAC to ensure high quality energy renovation in Stuttgart. EAC is regularly checking the construction sites to ensure the compliance with the standards.

- Independent quality checks of the renovation works

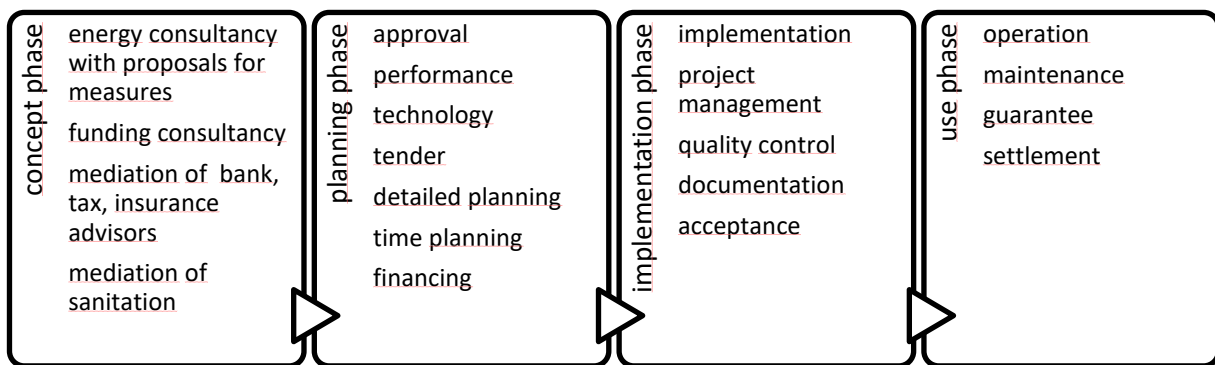
c) Role of the General Contractor (under development)

- Tender preparation
- Coordination and execution of refurbishment work on the **building envelope** and on the **technical building systems** (optional)

d) Role of ESCO

- Offer of energy supply contracting to private house owners (financing, planning, operation, maintenance, heat supply and guarantee for technical building systems)

5) Workflow and standard procedures



The **concept phase** includes the development of energy refurbishment concept as well as the establishment of an investment framework considering subsidies and tax effects. First of all, the Energy Advice Centre prepares an energy audit. Then potential contractors prepare their offer.

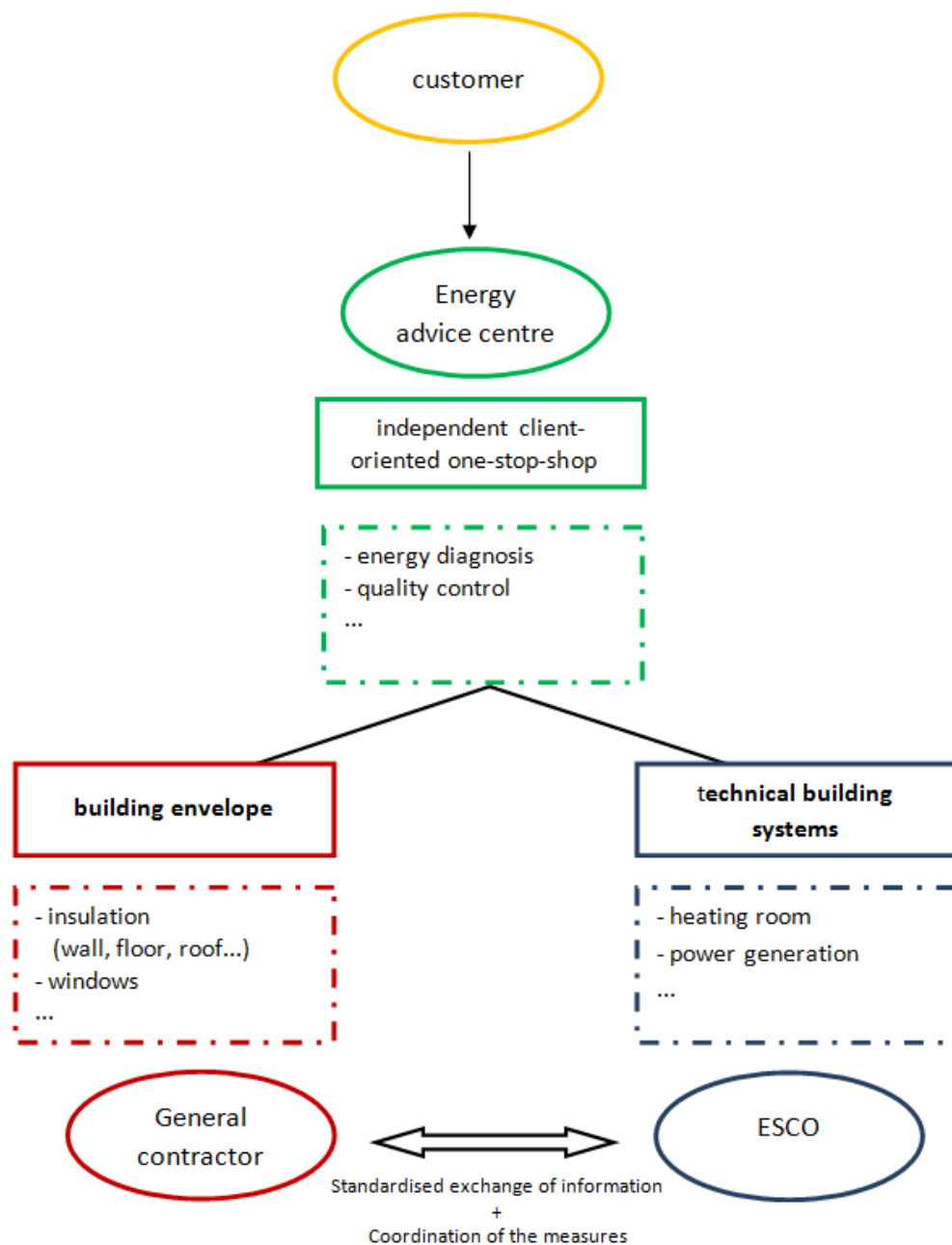
After the selection of an appropriate energy service provider, the documents for the construction and other planning details are concretized during the **planning phase**.

The **implementation phase** includes all steps till the acceptance of the remedial actions. The advantage of the award of an energy service provider is a turnkey delivery of the refurbishment over all crafts. The contractor takes care of the operation and maintenance of the construction.

The business model draws an all-round carefree package with quality assurance and clear division of competences for the technical building systems (ESCO - Stadtwerke Stuttgart) as well as for the building envelope (General Contractor). As an independent association, the Energy Advice Centre accompanies and consults the construction as a quality manager. For this purpose, the checklists with quality standards were developed for tenders, planning and implementation of energy refurbishment of a building. For clients with lower budget, a contracting-model will be offered. In Stuttgart, a **modular design** is considered for energy supply contracting for the renewal of heating systems and an **all-round carefree package** with quality assurance for the building envelope.

In general, the **contracting service** includes one or all parts of the following services: planning, building and construction, operation and operational optimization, financing, guarantee and risk assumption. Depending on the composition, the service results into different business models.

In all cases the house owner can finance part of the services separately. The described all-round carefree package corresponds to the requirements of the target group (private home owners), in particular for communities of condominium owners.



Business Model - Annexes:

IS_D4.4_Contract template_contractor_beneficiary_Stuttgart
 IS_D4.4_Application form for the beneficiary_Stuttgart
 IS_D4.4_Contract_EAC_Client_Craftsmen_Stuttgart
 IS_D4.4_Quality Certificate of Energy Advice Centre

Related annex:

IS_D4.6_Partnership Agreements_Stuttgart
 IS_D4.11_report_investments_examples_Stuttgart