Energy Performance Contracting Plus

ENERGY PERFORMANCE CONTRACTING PLUS (EPC+)
SME Partnerships for Innovative Energy Services through Standardisation

The challenge of energy efficiency: Promoting innovative business models for SMEs

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Consortium

HORIZON 2020 Project
(03/2015 – 03/2018)

Main target group:

- **SME Energy Service Providers**
- **SME clients in the private sector**

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FACTS | Background

- Although the **efforts to raise awareness** of one of the most appealing mechanisms that enables the adoption of energy efficiency measures in all activity sectors, **Energy Performance Contracts have not been widely adopted in Europe.**
- Besides being scarce, EPCs are usually established by a **single company**. Given that energy efficiency improvements can comprise a wide range of measures it is understandable that larger companies with more complementary resources (technical, legal and financial) are preferred. Therefore, it is not unusual that **EPC market is dominated by larger and well-known companies**.

HOW TO CHANGE THIS PARADIGM?

Barriers for the implementation of EPCs in SMEs

- EPC goes against the business logic of utilities;
- **Investments, project sizes and profit magnitudes are too small to attract bigger ESCOs (e.g. multinationals), with large overhead costs;**
- Procurement law provisions (EU-wide tendering); long term and complex contracts;
- **High transaction costs** for the procurement of the energy services relative to the savings potentials;
- **Financing is difficult** to obtain for smaller projects, as due diligence costs are relatively high;
- **High costs of the M&V procedures** needed to verify the guaranteed savings;
- Risk of bankruptcy of the SMEs.

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EPC+ Project | AIMS

- Developing and promoting new business models for the implementation of energy efficiency services through **cooperation of SMEs**.

- Supports the creation of **partnerships (clusters) of SMEs** that offer innovative energy efficiency services (**SPINs**).

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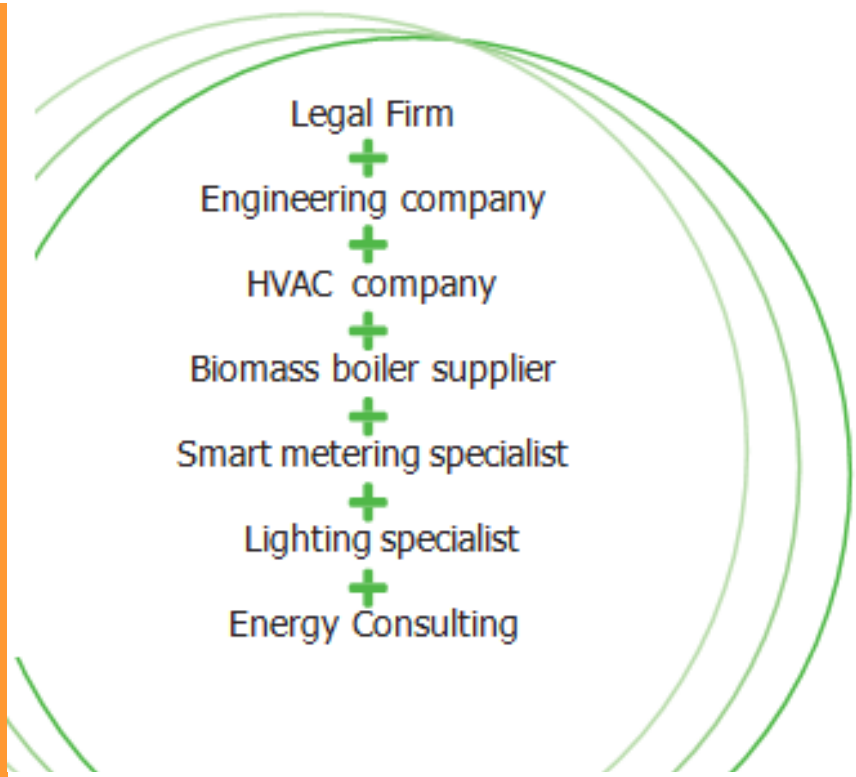
EPC+ Project | OBJECTIVES

- The development and establishment of SPINs in the 11 participating countries;
- Capacity building of the SPINs (regarding administrative, technical, legal, financial, organizational, communication and business issues);
- The simplification of existing EPC models (so far tailored to large-scale projects) through the creation of **simple standardized** technical **solutions,** with **simple M&V procedures**;
  - Development of **simple model contracts**, technical and financial solutions.
- Testing, by the SPINs, of **the new EPC+ service** through the implementation of **pilot projects**;
- Development and establishment of an **international EPC+ Platform** (www.energyefficiencynetwork.eu)

SPINs - SMEs Partnerships for the provision of Energy Services



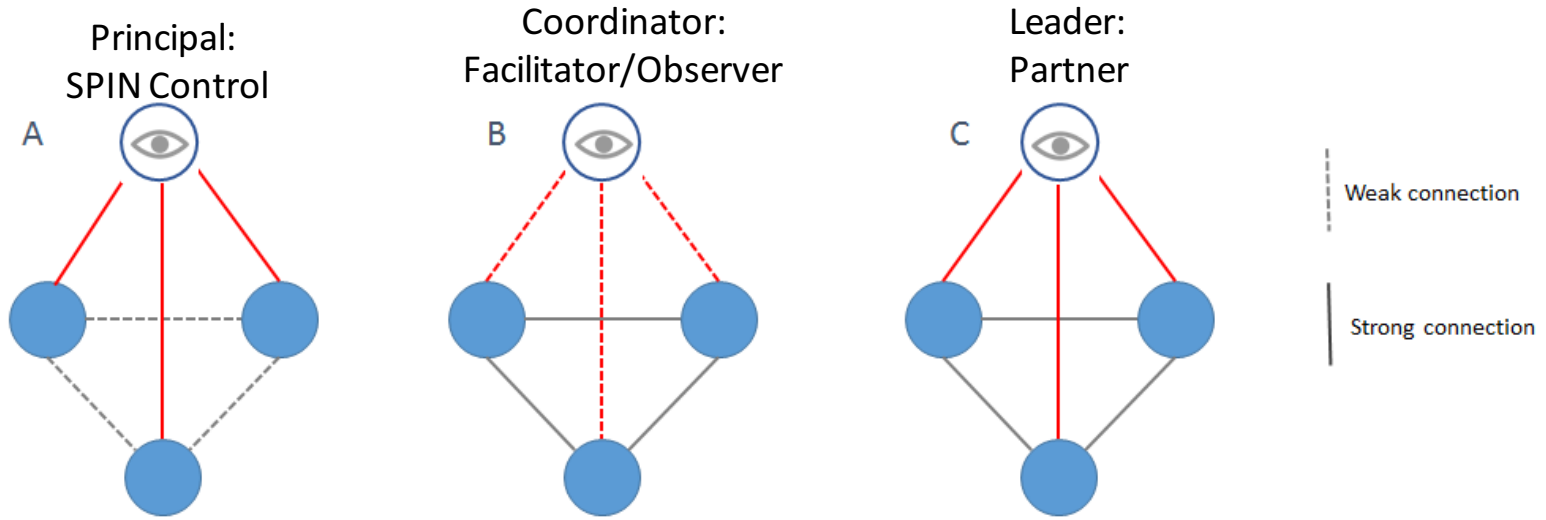
SPINs are organized clusters of SMEs of **complementary expertise**, which jointly supply energy services and have a **structured, long-term collaboration** with commonly agreed objectives.

Organizational structure of SPINs: Simple, Complex and Complicated

Interrelations and connection strengths

SPIN observer, co-ordinator, leader, …
(often also SPIN partner)

SPIN partner, member, subcontractor, …



Strong central connections
Weak distributed interactions

Formal organization

Weak central
Strong distributed interactions

Dynamic interactive environment; Informal self organising network

Strong central
Strong distributed connections

Formal collaborative network

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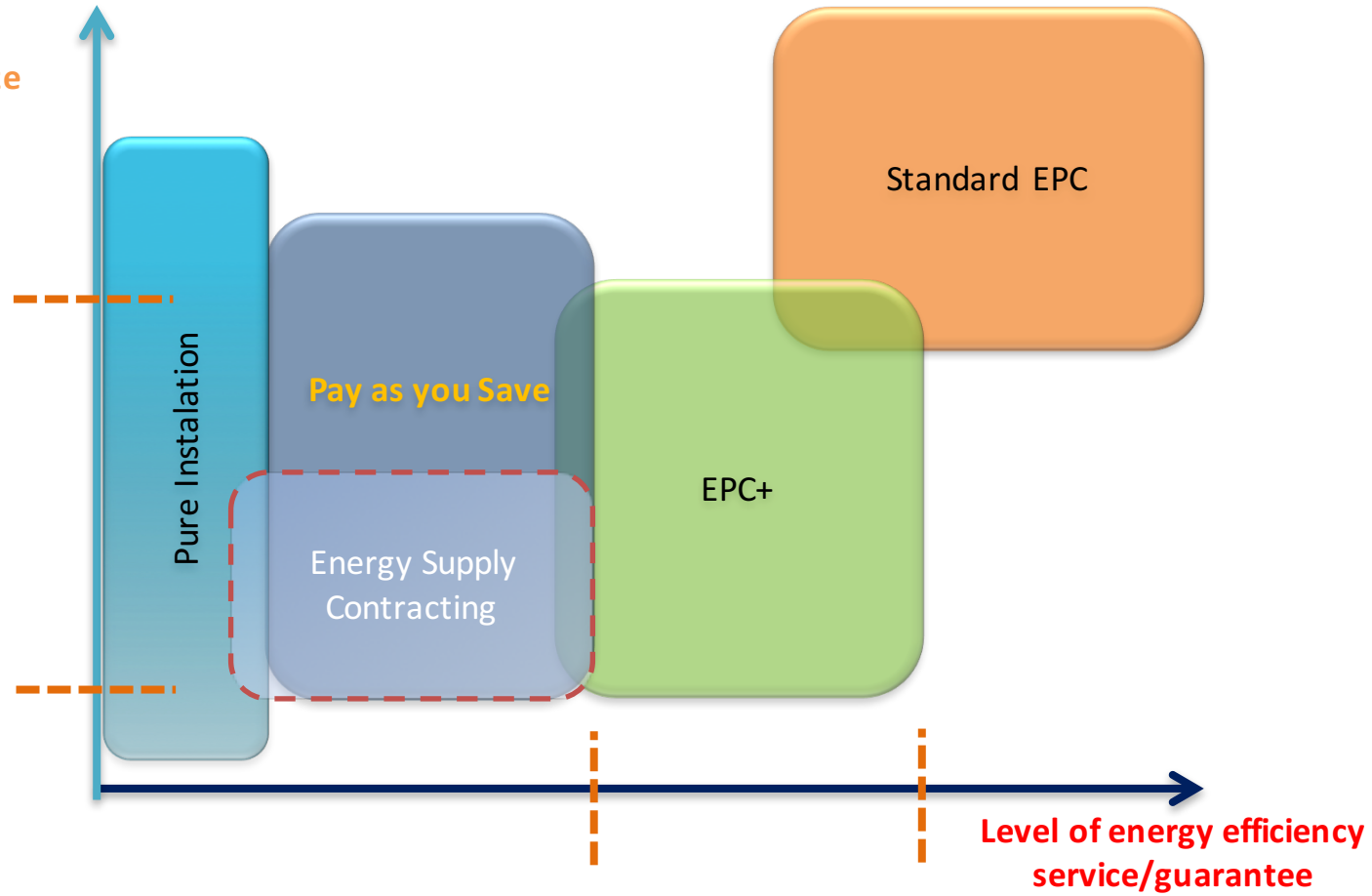
Simplification of the market situation and positioning of EPC+ | Filling the market gap

EPC+ offers to reduce the performance risk of customers with affordable costs

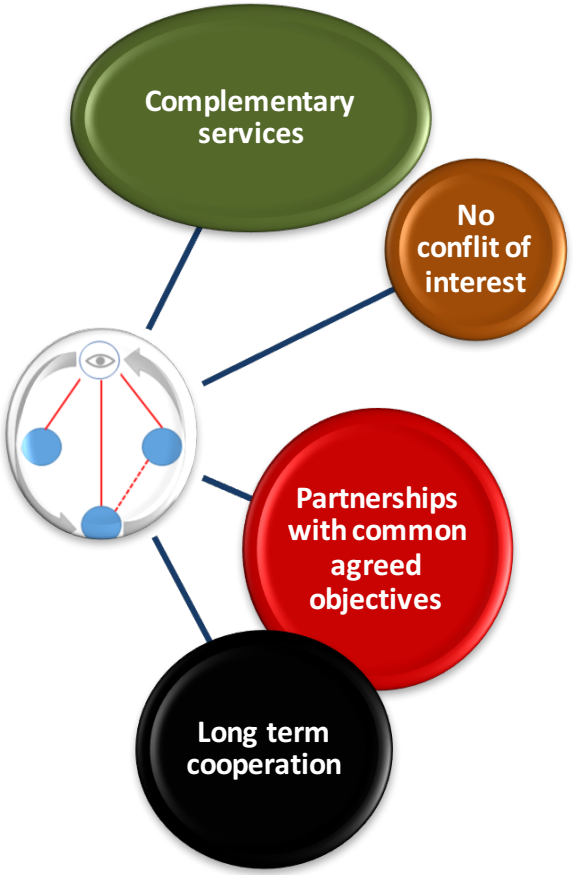


Cherry picking (low-hanging fruit)?

Yes…absolutely!

Simple solutions, simple M&V with small payback periods

Ingredients for successful business cases by SPINs



Standardization of technical measures

Simplification of EPC models

Financing tools

Simplified M&V

LOW TRANSACTION COSTS

Novel&High Quality Energy Efficiency Services

Business Plan (Model Canvas):

Product idea (measures | financing)

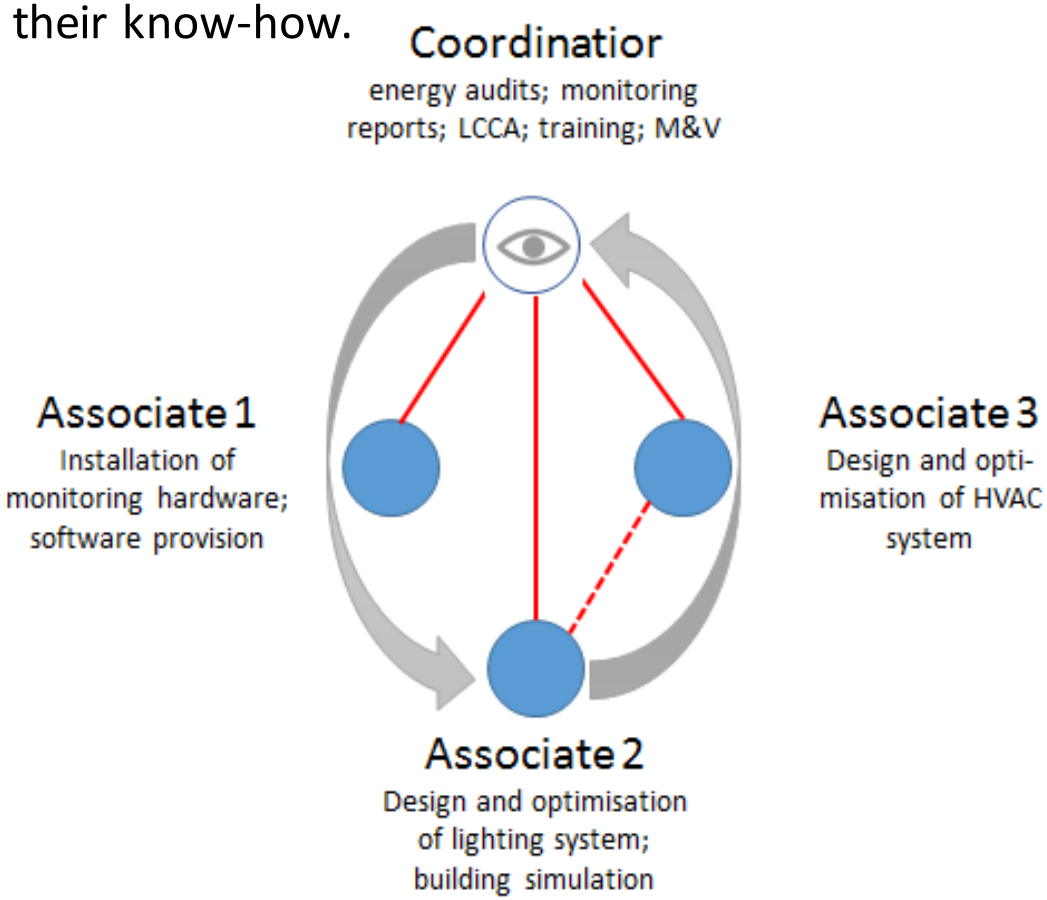
Market segments | client´s needs

Competitors | Threats | Risks (SWOT)

Realisation schedule

Innovative services example from e7/Austria

A Simple SPIN – no interactions between the associates.
The SPIN is coordinated by the research and consulting company e7 in Vienna. Three associates bring in their know-how.



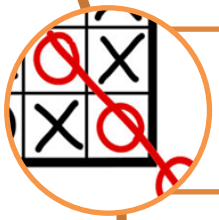
Strong central connections; Weak/no distributed interactions.

Innovative services | Example from Austria (e7)

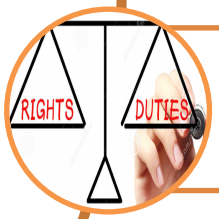
- **Offering a "building operations optimization package"**
  - **Energy audit** (carried out by SPIN coordinator)
  - Monitoring system: collaboration with SPIN partner 1
    - Definition of requirements of a monitoring system (SPIN coordinator)
    - Installation of hardware (SPIN partner 1)
    - Provision of the monitoring software (SPIN partner 1)
    - Monthly / quarterly data analysis and reporting (SPIN coordinator)
  - Lighting measures: collaboration with SPIN partner 2
    - Face to the customer (SPIN coordinator)
    - Light metering (temperature, intensity, etc.) (SPIN partner 2)
    - Light design (new/optimization) and tendering (SPIN partner 2)
    - Operational performance verification reporting (e.g. visual inspection) (SPIN coordinator)
  - Training of building operators staff (SPIN coordinator)
  - Measurement and Verification (SPIN coordinator)

Lessons Learnt | Conclusions

the establishment of a SPIN is of strategic matter to the respective SME and therefore **internal strategic meetings and decisions** of most of the SPIN principles **are required.**



the development of, and entry to, a SPIN forces enterprises to **think outside of the box,** as the **collaborative supply of energy efficiency services is not trivial** and widely spread.



Collaboration within a SPIN opens the focus of all of its members and **brings rights and duties** to them. A SPIN goes **beyond the scope of subcontracting**

Joining a SPIN, **SMEs strengthen its competitive position** by working together with other SMEs.

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This document has been elaborated within the Energy Performance Contracting Plus project and is available on the project website.

www.epcplus.org

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ANNEX

Innovative services example from e7/Austria

Target groups: hospitals and other innovative markets, like multifamily houses.

Service Provided: The building operation system will be optimized or newly designed. On the basis of a monitoring system (provided by associate 1) and calculation of life cycle costs (done by the coordinator) a comprehensive innovative energy service package can be implemented.

The service aims at the optimization or new design of the lighting system (provided by associate 2) and/or the HVAC system (provided by associate 3).

M&V remains with the coordinator.

Well functioning SPIN | Pre Conditions

- **Market approach**
  - SPIN needs to develop a **clear strategy and** effective **market plan**;
  - **Commitment** by all SPIN members is required; good communication network and channels.
  - Selection of **suitable customer segments**
  - partners need to be willing to resume **tasks and duties on a long-term basis.** Otherwise it is sub-contracting.

- **Internal organization and management**
  - Definition of roles, responsibilities and duties
    - who is the coordinator; who is the face to the customer
  - Continuous exchange of information
    - regular workshops
    - fixed dates for web-based communication on regular basis
  - Clear and transparent contract
    - no doubts on rules, duties, etc. should remain

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EPC definition

According to Energy Efficiency Directive (2012/27/EU) EPC means a contractual arrangement between the beneficiary and the provider of an energy efficiency improvement measure, verified and monitored during the whole term of the contract, where investments (work, supply or service) **in that measure are paid for in relation to a contractually agreed level of energy efficiency improvement or other agreed energy performance criterion,** such as financial savings.

The European standard EN 15900 about energy efficiency services (EES) defines an EES as an agreed task or tasks designed to lead to an energy efficiency improvement and other agreed performance criteria.

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Technical toolbox - 3

Energy efficiency measures

1. Indoor lights: LED lights + control systems
2. Hydraulic adjustment of heating system
3. Modernization of pumps
4. Modernization of electrical motors
5. HVAC control systems
6. Programmers of BMS-systems of different suppliers
7. Renovation/replacement of heating boilers
8. Energy-efficient windows
9. Industrial boiler blow-down heat recovery

Renewable energies
(in conjunction with an energy efficiency measure)

1. Solar water heaters
2. Biomass heating systems
3. Micro CHP
4. PV-panels
5. Small wind turbines
6. Heat pumps

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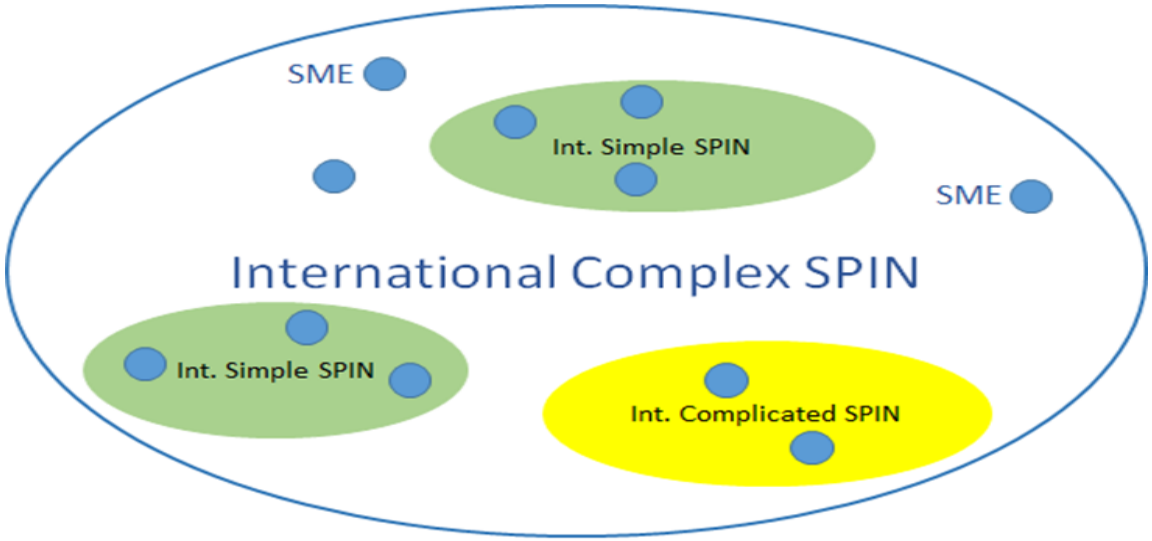
EPC+ Platform

The international EPC+ platform is an international 'market place', where - according to commonly agreed rules – its members can safely exchange valuable know-how and develop EPC-models and SPIN-concepts. It can be seen as a conglomeration of the different types of SPINs.



Source: Factor4, 2015

The platform www.energyefficiencynetwork.eu is online.

There is a restriction to 1 member per country **(with an annual membership fee)** + the SPINS developed in each of the countries **(free of charge)**. In order for more than one member to be allowed, this has to agreed upon by all the country-members.