



EUROPEAN
REGIONAL
DEVELOPMENT
FUND



EFFECT4buildings



Innlandet
fylkeskommune

EPC GUIDE and TOOLBOX

New implementation model for EPC



Liv R. Lindseth, LinKon AS

Contracted by Inland County Council

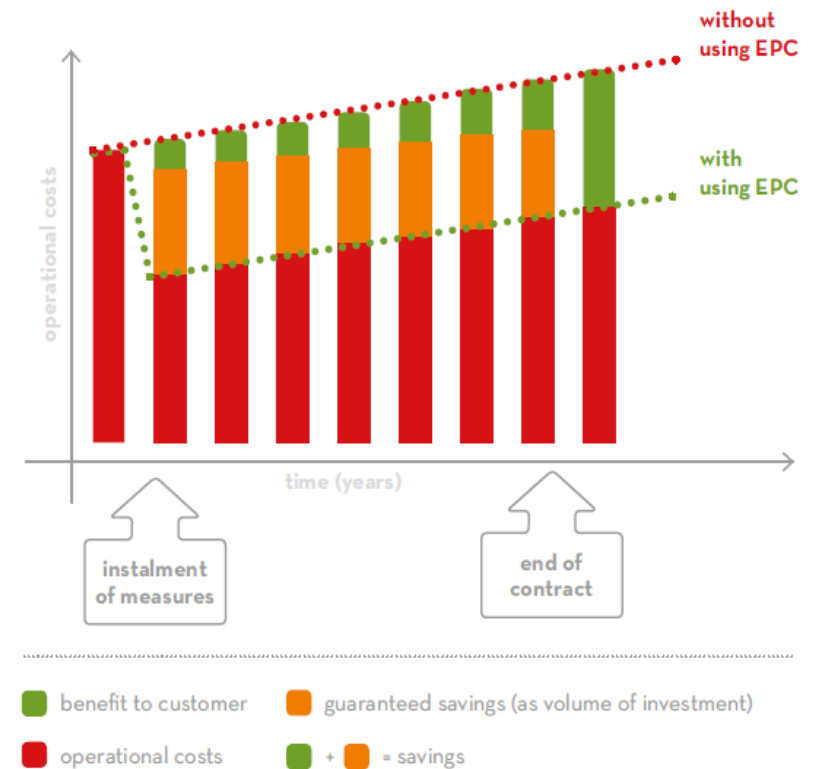
November 2020

effect4buildings.se/toolbox/energy-performance-contracting/



Energy Performance Contracting - EPC

- A useful tool in the race to reach global energy- and climate goals in time
 - Deliverers energy saving results at a higher rate and speed than traditional EE projects
 - Secure public investments
 - Contract based guarantee of savings
- **E4B goal: Increased use of EPC in public building**



EPC market research

- EPC experiences in Hedmark and Oppland Counties (now Inland CC)
 - «6 EPC municipalities and their experiences», 2019
- Market research and reports from several countries
 - «Granskning av EPC-avtal», 2017
 - «Market report on EPC in Europe», 2016
 - 10-15 years of experience in the Nordic countries
 - Polish EPC market emerging
 - The EPC model quite unknown in Estonia, Latvia and Lithuania
- Norwegian project; «New implementation model for EPC” has been a part of our background experience in E4B
 - [WSP](#), [Caverion](#), [LinKon](#) – with financing from the Norwegian energy agency, Enova

E4B EPC experiences – Key figures

EPC cases	Cases	Saving guarantee (average)	Achieved saving (average)	Duration/ y (average)	Financing PU/PV	Buildings	m ²	Investment
Finland - PP2	2	29 %	21 %	6	Esco	4	20 000	2 M€
Estonia - PP8	2	37 %	30 %	5	Own	2	10 000	2 M€
Poland - PP11	2	30 %	37 %	15	1 Own 1 Esco	17		5 M€
Denmark - PP5	5	22 %	22 %	8	Own	238	~650000	35 M€
Norway - PP3	6	29 %	25 %	10	Own	114	360 000	12 M€
	17	29 %	27 %	9	PU+PV	375		56 M€

Main development needs

- Allocation of **more time** to develop and follow up the EPC project
- **Better cooperation** and/or partnership between client and ESCO
 - Focusing on cooperation, interaction and building trust
- **Equalize differences in expertise** between customer and supplier
- Consider options to **lower transaction costs**
 - Equally important both for customer and supplier
- **Improvement of templates** for tender and contract documents
- **Award criteria** reflecting overall goal of the building owner
- Improvement of **quality requirements** - technical, process, cooperation skills, project management
- Risk assessment analyses (e.g. bank guarantee)

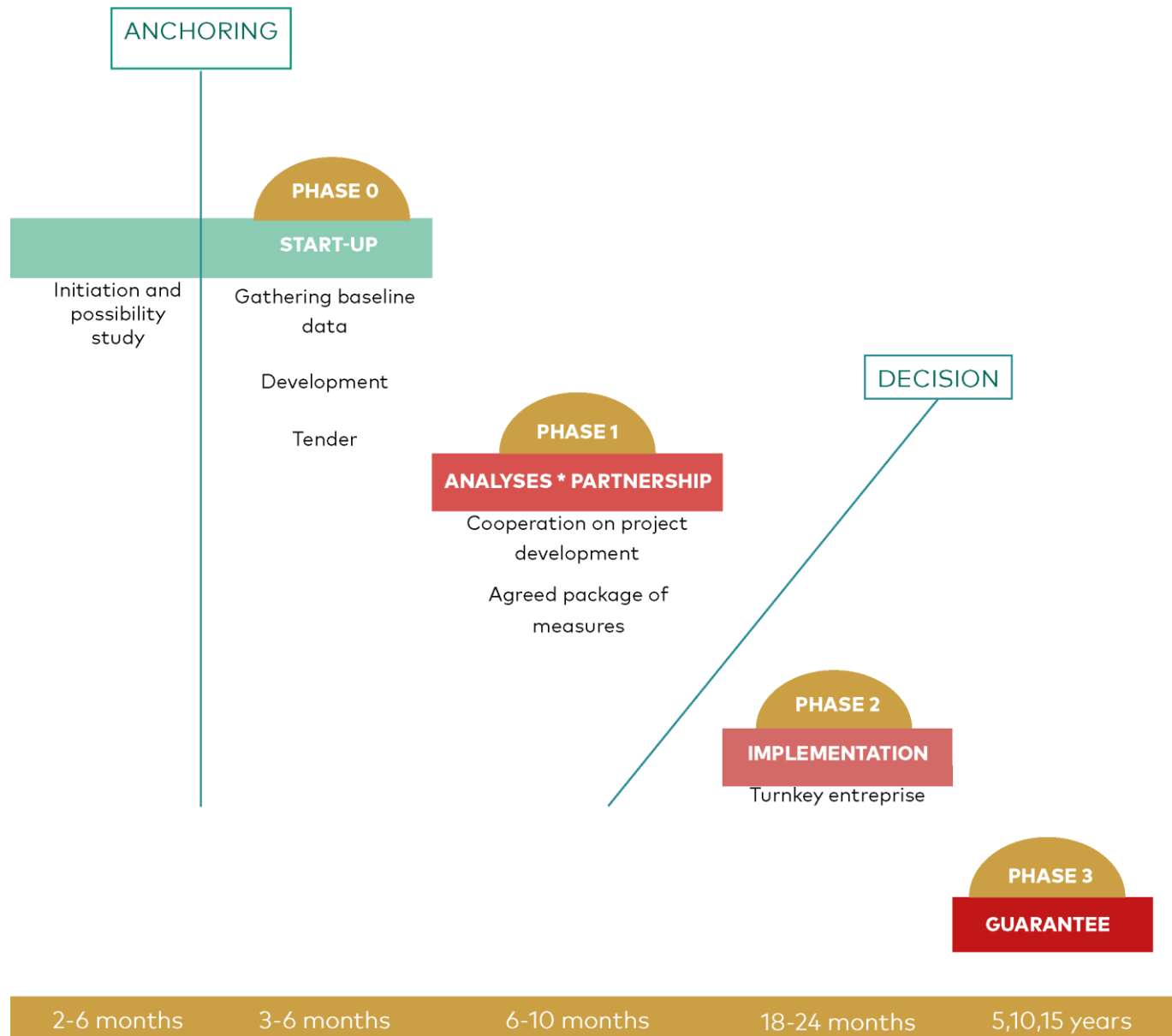


Assessment of experiences and results

- Most suggestions for improvement focus on phase 0 (tender) and phase 1 (analyses)
- Critical choices and decision are made early
- Decisions and actions in phase 0 and 1 form the basis for failure and/or success in phase 2 (implementation) and 3 (guarantee)

Development need:

- **Improvement of tender preparation and content in phase 0**
- **Improvement of cooperation/partnership in phase 1**
- **Tools and guidelines**



New implementation model for EPC

Contract based partnership in phase 1

FIGURE: AN EPC PROJECT WITH A CONTRACTUAL PARTNERSHIP IN PHASE 1.

The tangible EPC toolbox



EPC Guide and Guideline for start-up of EPC projects

Description of new implementation model
How to start an EPC project



EPC Presentation

Training kit (material)



Adapted templates and model documents

Tender documents, contracts, etc.

GUIDE ENERGY PERFORMANCE CONTRACTING



Guide to Energy Performance Contracting (EPC)

with contract-based partnership during the analyses phase

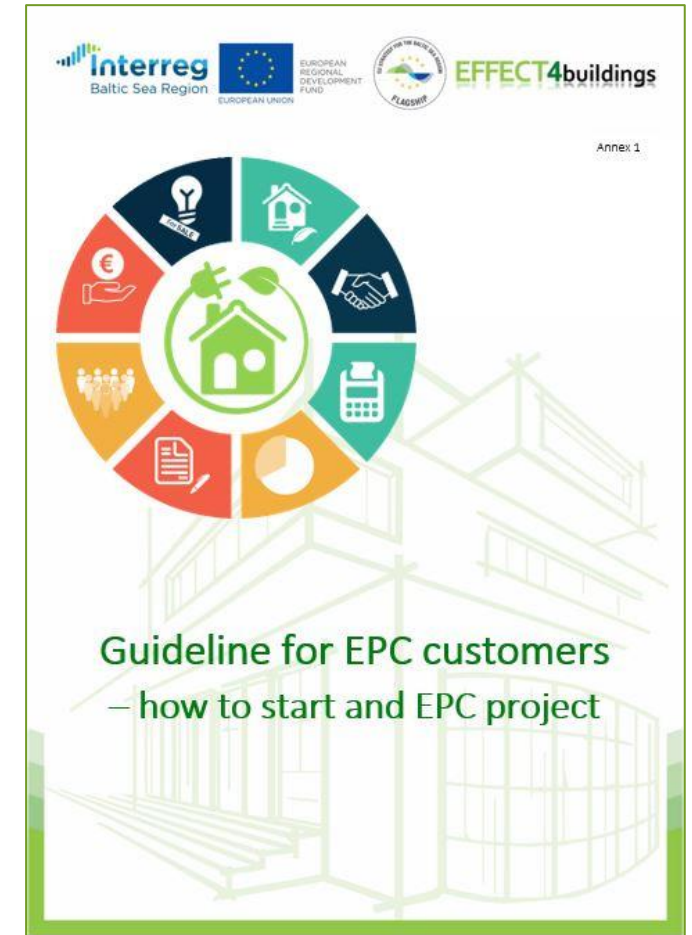
EPC toolbox - documents and templates for implementing EPC

Phase 0 Start-up and tender	Phase 1 Energy analyses	Phase 2 Implementation	Phase 3 Guarantee
1. Guideline for EPC customers – how to start an EPC project			
2. EPC Presentation and Training material			
3. Tender for procurement of EPC supplier - Template	7. Partnership contract for phase 1, Analyses – Template		
4. EPC tender analyses – Template*	8. Project development report and energy analyses – Template		
5. Baseline data –Template*			
6. Checklist for qualification and award criteria – Template*		9. Attachment to contract terms for Phase 3, Guarantee - Template	

1 - Guideline for EPC customers

Introduction for the start-up of an EPC project

- What to consider before deciding on EPC
 - Traditional AND new implementation model
 - Necessary preparation once the decision is made
 - Available tools, templates and model documents
 - What types of consultants / advisors can help with what
 - Laws and regulations
- **Step-by-step guide on how to start and EPC project**



3 – Tender for procurement of EPC supplier - template

➤ Adapted compared to traditional EPC tender documents

- **Prequalification** of bidders
- New **award criteria** and weight
- Improved quality requirements
- Tender analyses of **example buildings** (bid analyses)
- Described qualities in the offer passed on to measures in the same category for remaining buildings
- Adapted for **partnership** contract in phase 1 analyses

How to use the template

- Disclaimer
- Important information in the margins
- Must be adapted to national laws, regulations, and specific project conditions
- Should be verified by national legal counsel / lawyer in each country



Cooperation through partnership - Phase 1

- The partnership model is based on a **phase divided contract**
- The partnership has a **common development phase**, phase 1, before the turnkey contract for implementation is entered into, phase 2

In Phase 1 the parties should:

- Agree on the partners' **goals and prioritising**
- **Reduce insecurity**
- Achieve **mutual understanding** for the deliveries/measures
- Agreements on **concrete solutions** and **technical product choices**



7 - Partnership contract for Phase 1, Analyses - template

What do the parties agree on?

- To **actively contribute** to a positive, constructive and solution-oriented working relation
- The **open book** principle for phase 1 - all relevant documents available for both parties
- Will result in a complete **project development report**, with a unified fixed price and completion deadline for the project

How to use the template

- Important information to users in the margins (as for the procurement tender)
- Must be adapted to national laws, regulations, and specific project conditions
- Should be verified by national legal counsel / lawyer in each country
- The document is a template that must be adapted to each project



DO IT!



**"To other municipalities I would say;
Do it! Stop pondering and talking about it.
Large municipalities and cities may have the
resources to do a lot themselves, but the
guarantee is the alpha and omega for smaller
municipalities.**

**We implemented close to 300 EE measures in
Elverum. We would not have had the resources for
this without EPC. "**

*Svein Arild Nyhus,
Elverum municipality, Norway*

2-6
months

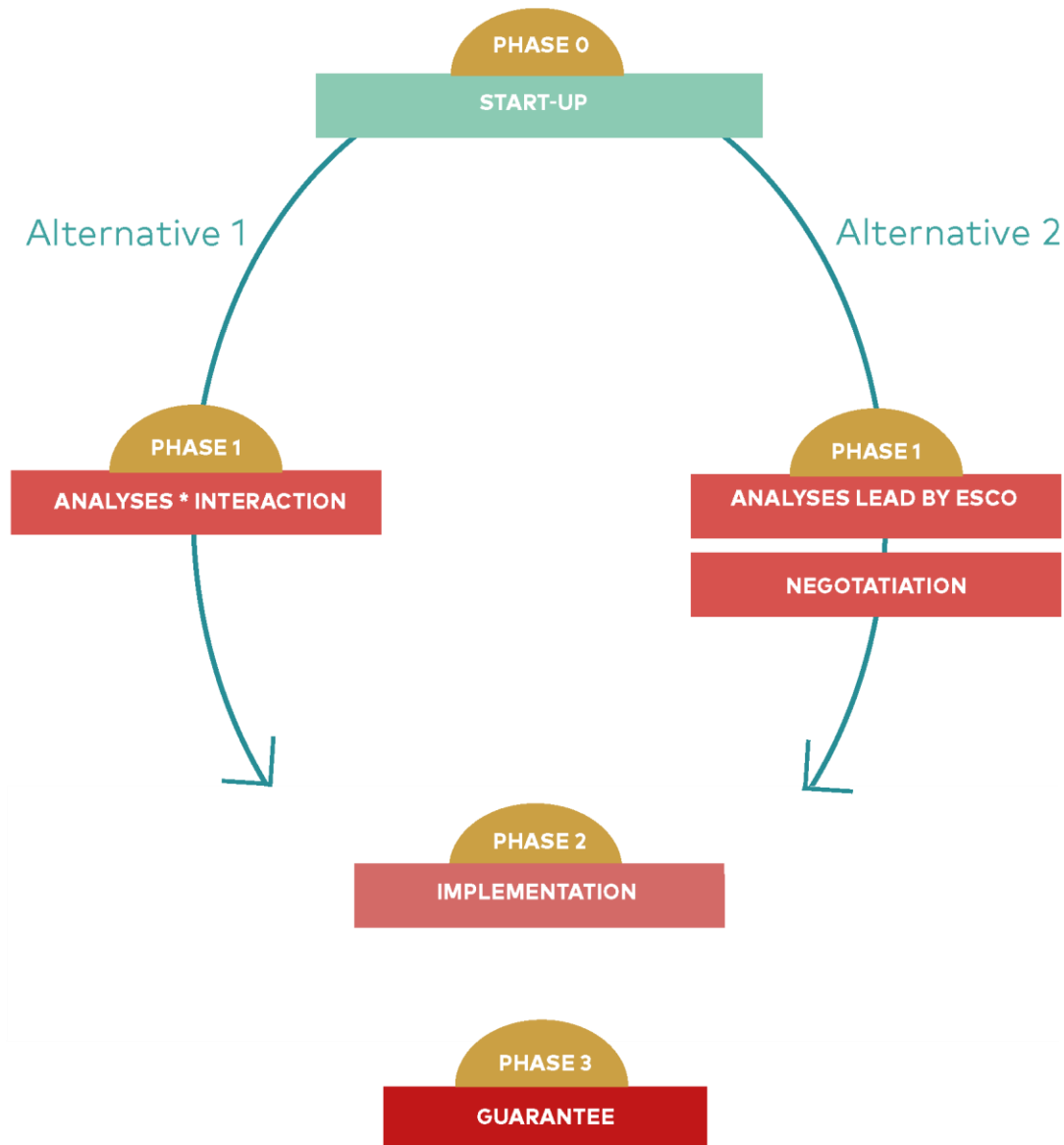
3-6
months

4-8
months

1-3
months

18-24
months

5,10,15
years



Several options:

Alt. 1: Partnership in phase 1

Alt. 2: Traditional implementation

Alt. 3: A mix

Choose EPC!

FIGURE: TWO IMPLEMENTATION MODELS FOR EPC



The speed of trust



EUROPEAN
REGIONAL
DEVELOPMENT
FUND



EFFECT4buildings



Innlandet
fylkeskommune

Contact

Liv R. Lindseth, Linkon AS
Contracted by Inland County Council

innlandetfylke.no/E4B

liv@linkon.no

+47 95 22 04 82