

Financial incentives for Citizen involvement in Renewable energy projects

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Conference

**Renewable energy and spatial planning:
Challenges and future perspectives**

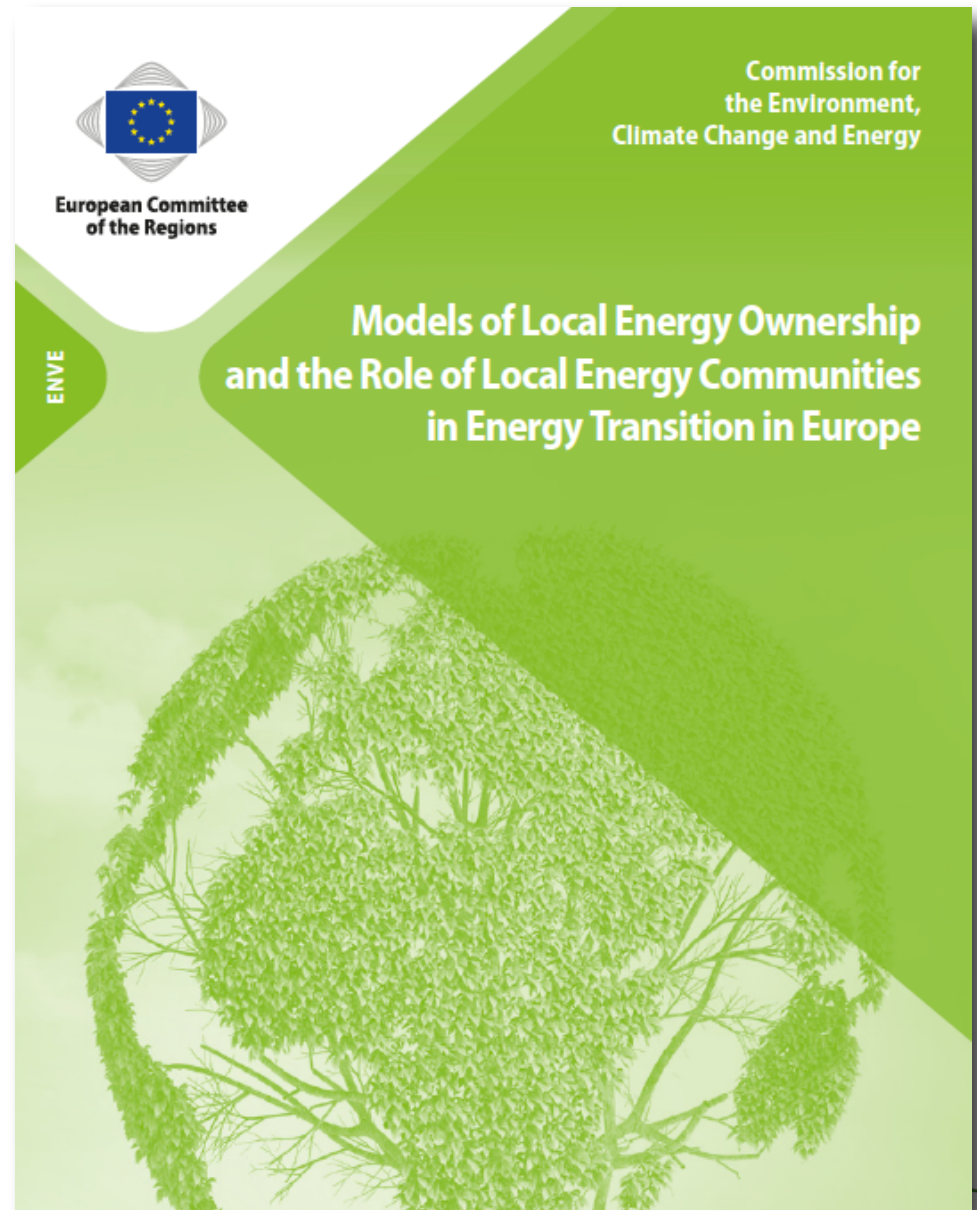
January 29-30, 2019 Riga/Jelgava, Latvia

Introduction

Innovative Financing systems

- 1) Financial risk management
- 2) Project cycle
- 3) Financing the initial stages
- 4) Financing the building of renewable Facilities

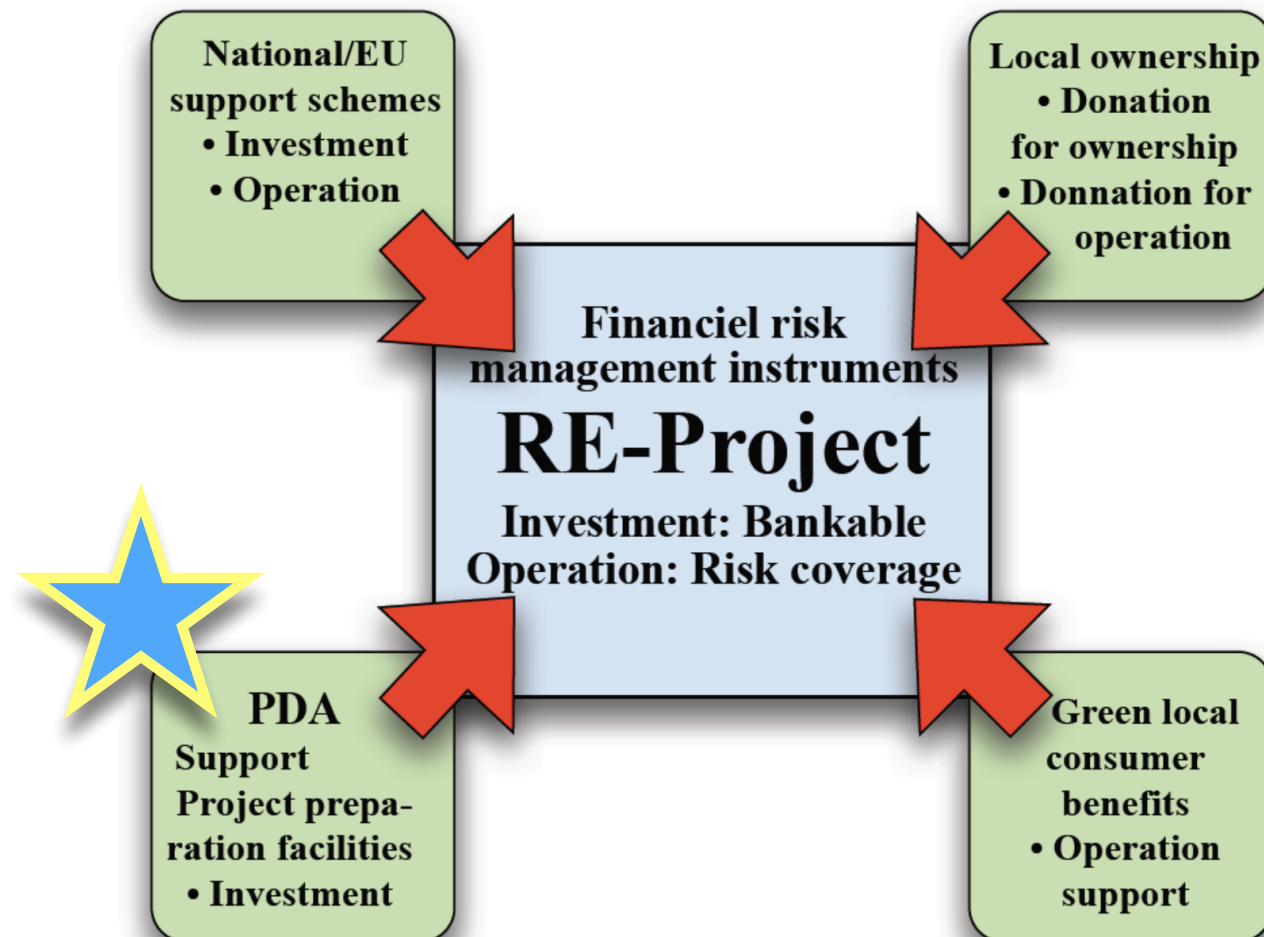
Large-scale investment in RE
Local ownership
Local actions



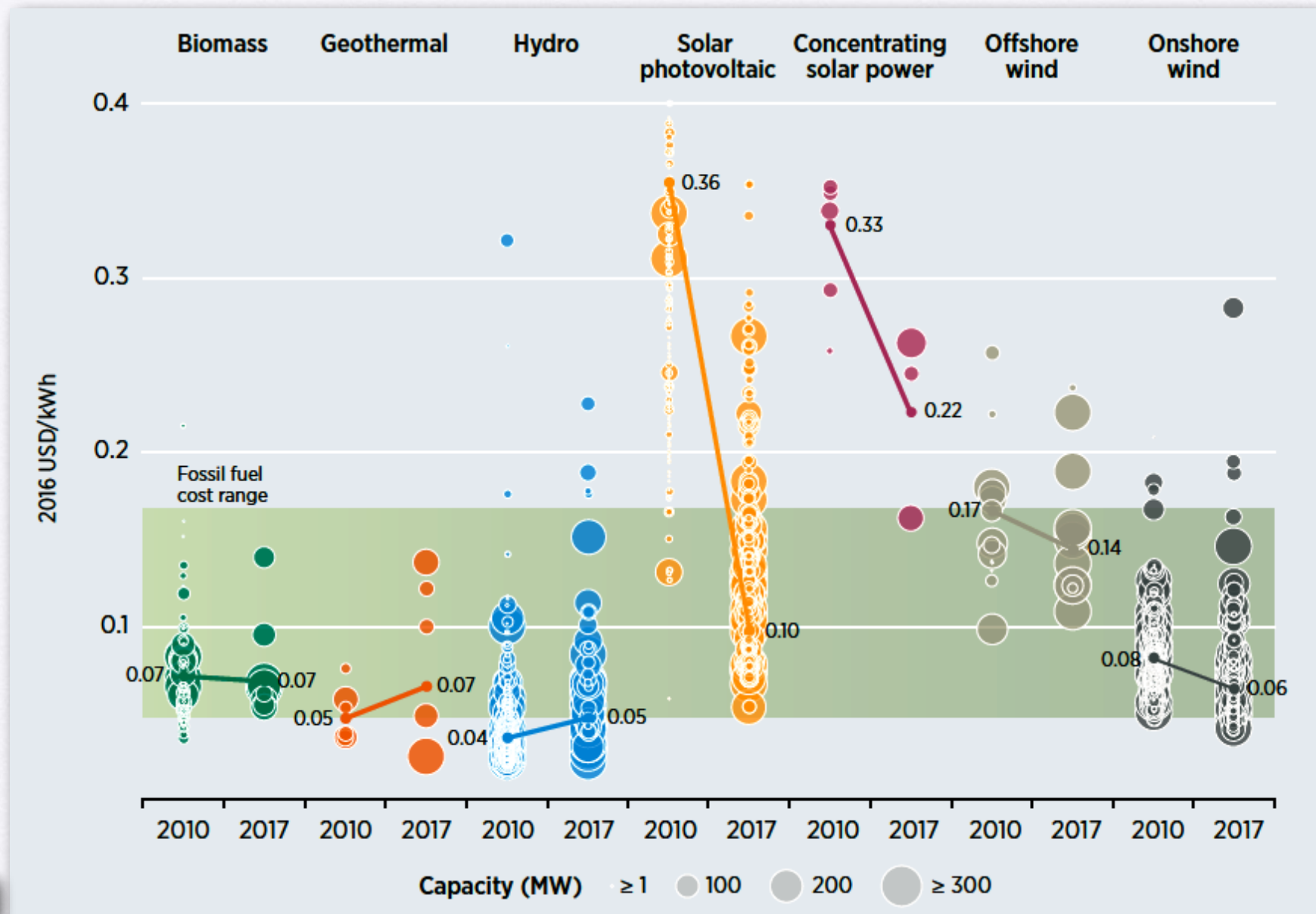
Financiell issues: Make project bankable

Financiell risk management instruments

Renewable energy projects



Levelised cost of RE-electricity 2010-2017



The project cycle

Step-by-step

Project process

— Phase 1 —

Preliminary
pre-feasibility
nvestigation

Technical
Assessment
- raw material, tech-
nical/environmental
performance

Potential
localization,
ownership

— Phase 2 —

Coherent
project document
input / output

Municipal Plan
Appendix

Local plan
zone permit

Environmental
approval

EIA

Business
case

Contracts
- input/output

Design of the plant
Tender

Project
Approval
heating supply

Tender
Contract negotiations

— Phase 3 —

Final financing

Building permit

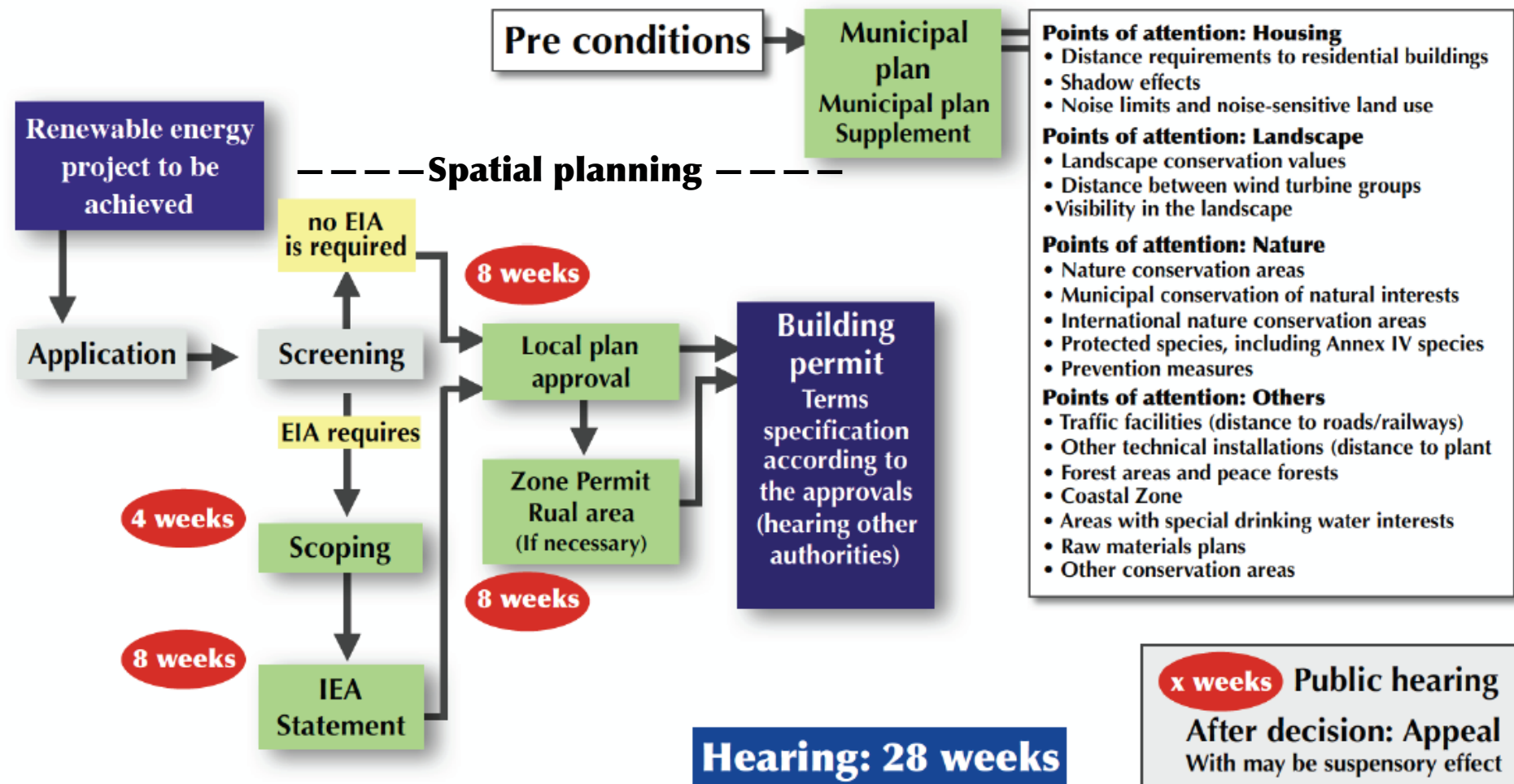
Byggeriet

Construction
Contract

Public - private partnership | Company/private -

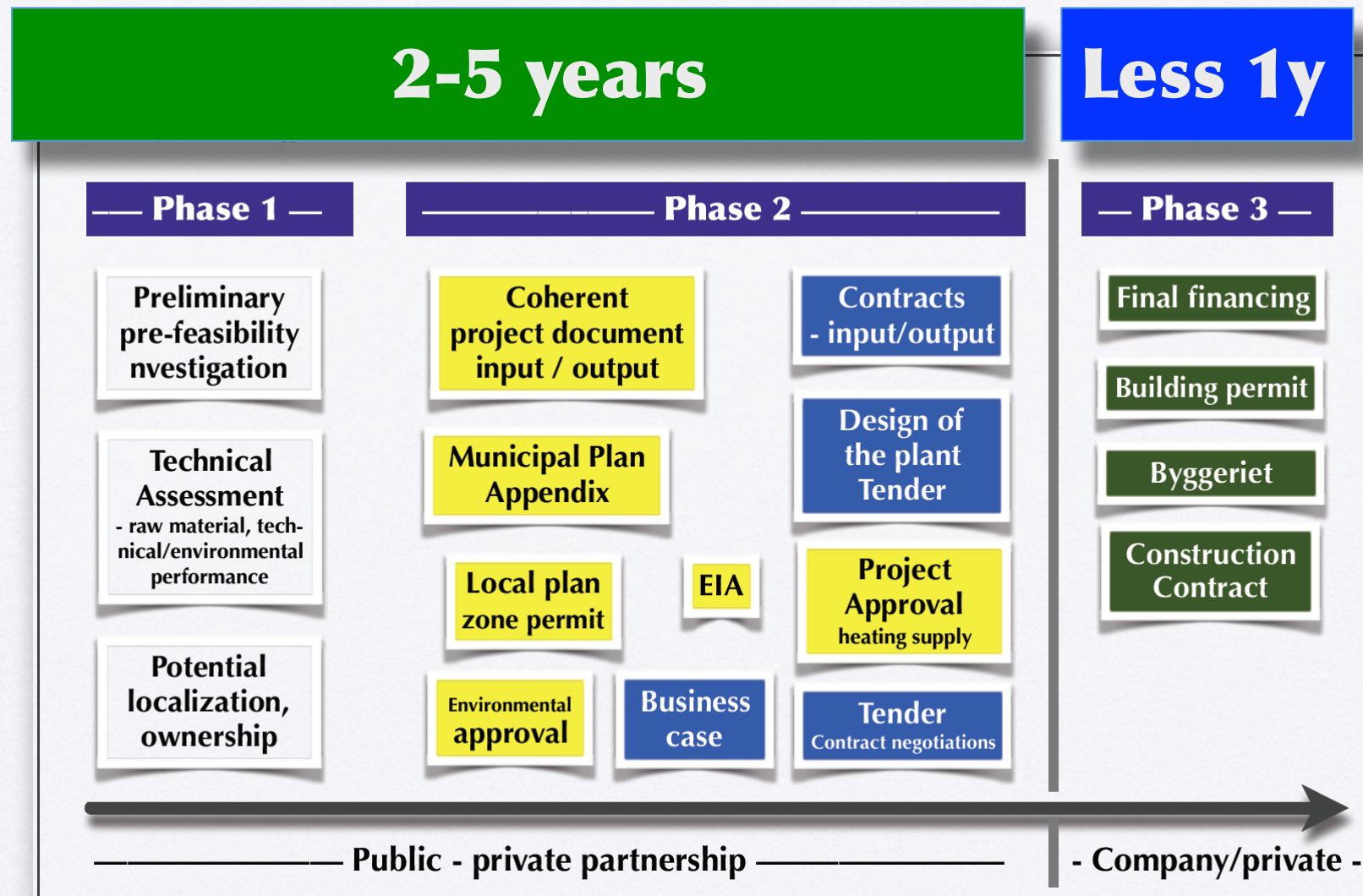
Spatial planning - a long story

Wind turbine onshore



The project cycle

Step-by-step: Long term focus and organisation



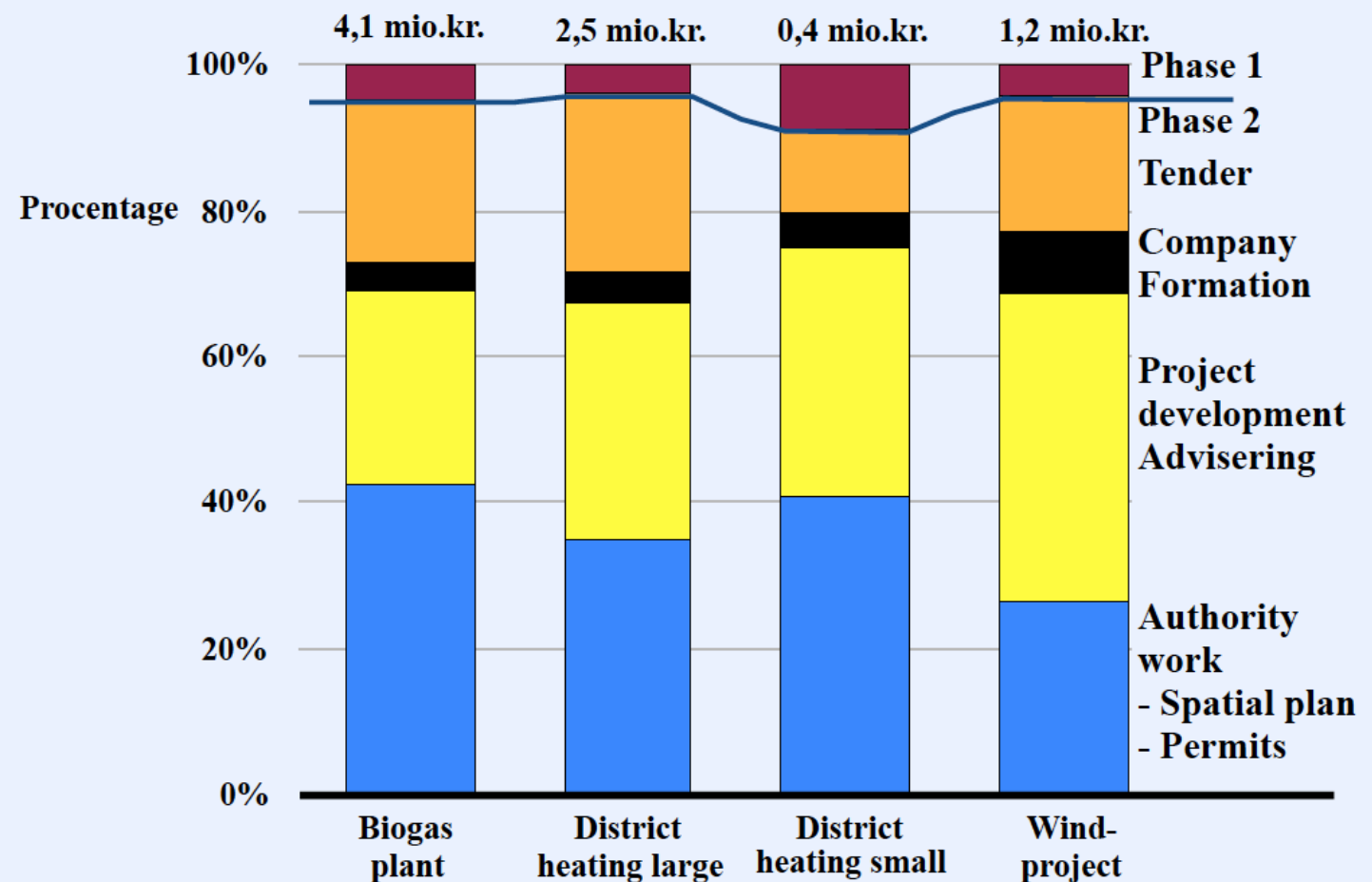
Cost of planning activities

- Most money spent in Phase 3
- ‘Small’ money in Phase 1-2 - but the most important

	Biogas 120.000 tons	District heat Large plant	District heat Small plant	Windmills 3 MW mølle
Phase 1 - %:	0,2%	0,1%	0,4%	0,2%
Phase 2 - %:	4,5%	1,3%	4,4%	4,5%
Phase 3 - %:	95,3%	98,6%	95,2%	95,8%
Hereof tech/legal:	0,9%	10,2%	9,9%	5,1%
Hereof plants:	94,4%	88,4%	85,3%	90,7%
Total - %:	100,0%	100,0%	100,0%	100,0%
Total costs:	11.7 mio. €	24.3 mio. €	1.2 mio. €	3,8 mio. €

Money spent in Phase 1 and Phase 2

Relative cost-sharing - Phase 1 and 2



Funding of Phase 1-2 - local involvement

[1] PDA-system (Project Development Assistance) - EU:

- ELENA
- Horizon 2020 Project Development Assistance
- European Energy Efficiency Fund (eeef - TA)
- Jaspers: Joint Assistance to support Projects in European Regions

[2] Public-private cooperation as PDA schemes

[3] Regional/municipal developing programme

[4] Build-Operate-Transfer local ownership

[5] State or regional Guarantee fund

[6] Research and development programmes supporting as PDA schemes - for instance Interreg programmes

Local ownership

European Committee of the Regions

- Re-municipalisation
- Decentralisation
- Participatory governance

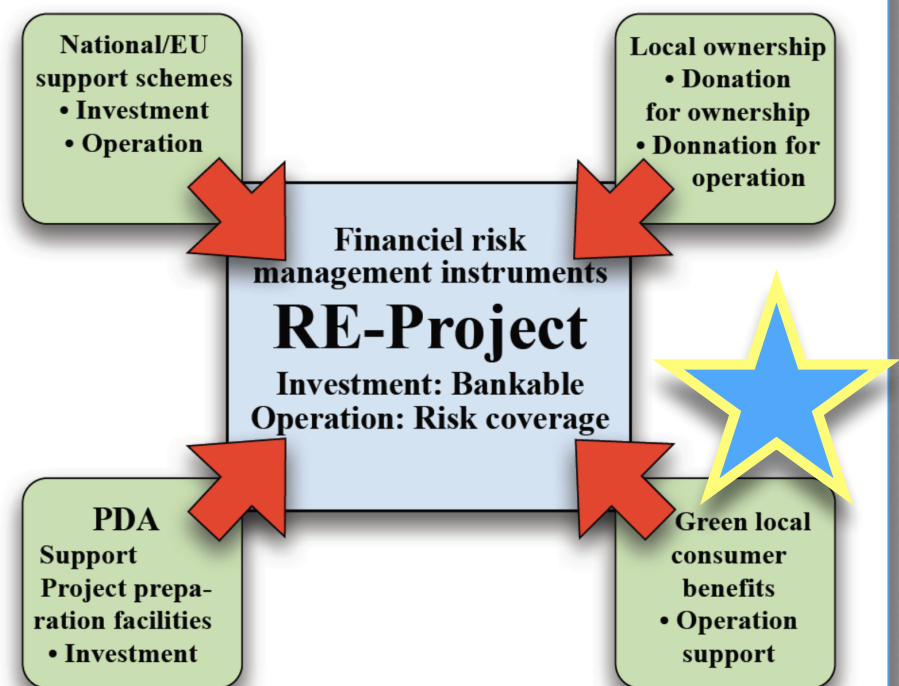
Own supply:

- Use energy in own installation
- Benefit: transmission and tax cost

Incentative to take action

Financial risk management instruments

Renewable energy projects



Funding of Phase 3 - local ownership

[1] Private household investment

Studies show that households are covering 11% of all renewable energy investment (2015/2016)

[2] Loan capital with municipal guarantee

Kommuninvest, Kommunalbanken, KommuneKredit, MuniFin

[3] Loan capital from mortgage and regular banks

Only limited funding accessible from these sources - local banks maybe

[4] International investment banks

EIB - European Investment Bank

NIB - Nordic Investment Bank

[5] Risk capital from local or regional utilities

Heating companies, power companies, etc.

[6] Risk capital from private equity funds

Cannot be recommended - short time ownerships

Support scheme

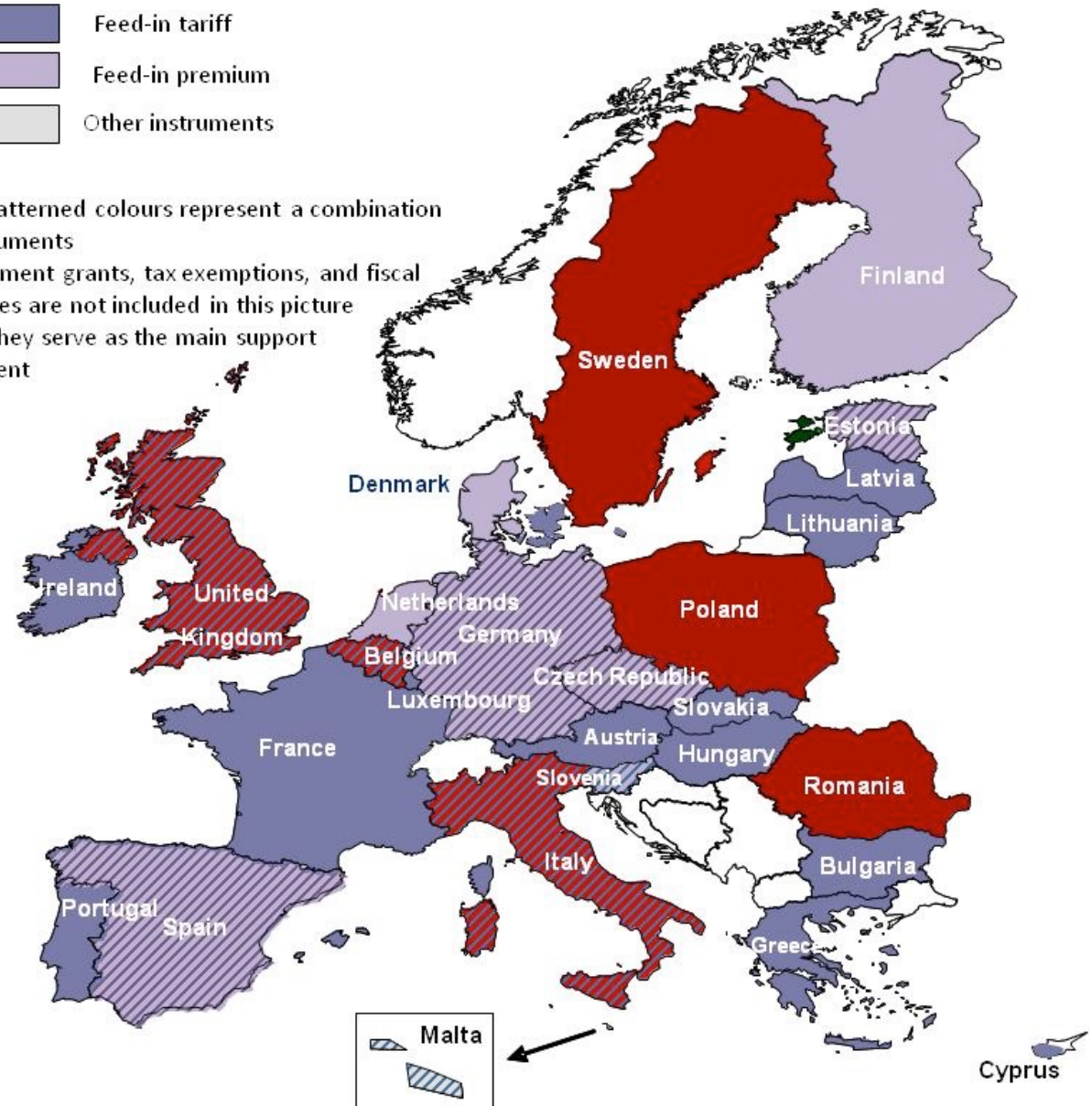
Four main types (and mix of types):

- **Quota obligations**, eg. biogas for transport in Sweden
- **Feed-in tariff**: Fixed payment per unit for instance: kWh produced electricity:
 - DK: Biogas for electricity
 - DK: Household mills (now reduced)
- **Feed-in-premium**: Price supplement on top of the market price of electricity:
 - DK: Wind turbines (land and sea)
 - DK: Thermal plants (biomass to electricity)
 - DK: Biogas for upgrade and process
 - DK: Solar cells
- **Other**: Special grants or conditional Price supplement
 - Green scheme for strengthening local landscape and re-creational values (Compensation grant on setup of wind turbines - 0.4 øre per kWh for 22,000 full load hours)
 - Guarantee Fund in support of financing of local wind turbine investigations



Notes:

- 1) The patterned colours represent a combination of instruments
- 2) Investment grants, tax exemptions, and fiscal incentives are not included in this picture unless they serve as the main support instrument



Financiell risk management instruments

Renewable energy projects

