



NER300 – RES Projects List

Stefano Puppini
DG RTD



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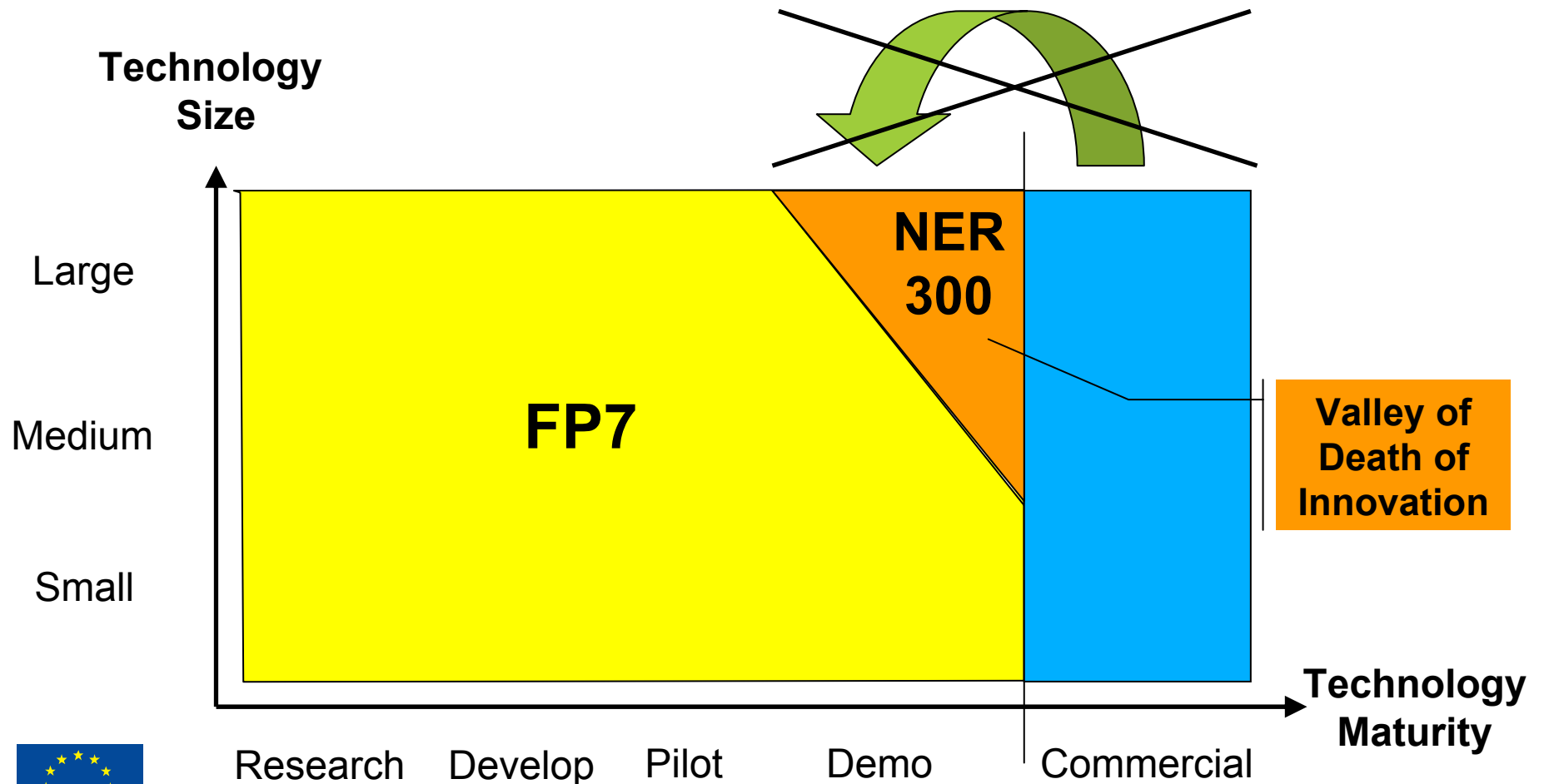
● R&D projects - Sources of financing

- FP7 non-nuclear energy: 2.3 b€
- ETS article 10a.8 (NER300)

- MS R&D Programmes
- Structural Funds: > 85 b€ for R&D
- ETS article 10.3 (at least 50% ...)



● FP7 & NER300 – Technology Development Cycle Coverage



● Basic technology requirements

- They are innovative in relation to the state-of-the-art in the key sub-streams for each technology
- They are not yet commercially available, but sufficiently mature to be ready for demonstration at pre-commercial scale
- They involve substantial economic risks, and (while technological risks are inevitable) have a good chance of successful demonstration
- The proposed scale of demonstration is such that no significant additional problems are to be expected from further scaling up
- They have a high replicability potential, and therefore significant prospects for cost-effective CO₂ reduction both in Europe and globally



● The framework of article 10.8a

- **Only renewable energy generation (electricity, heat & fuel).**
- **Innovative, excluding incremental innovation**
- **Sufficiently mature for pre-commercial demo (last step before commercialisation, often after validation in pilot plant)**
- **Need to be demonstrated at large scale**
- **No upstream technologies**
- **No deployment**
- **No repetition of demo already completed / underway somewhere else**
- **No niche applications**
- **No tautologies**



● How was the RES projects list compiled?

- **Collect inputs**

- » Proposals for the SET-Plan Industrial Initiatives
- » Inputs from renewables sectors and associations
- » Results of road mapping exercises financed in the past through Framework Programme
- » Knowledge within the Commission

- » MS comments

- **Verify information**

- **Filter applying basic technology requirements**



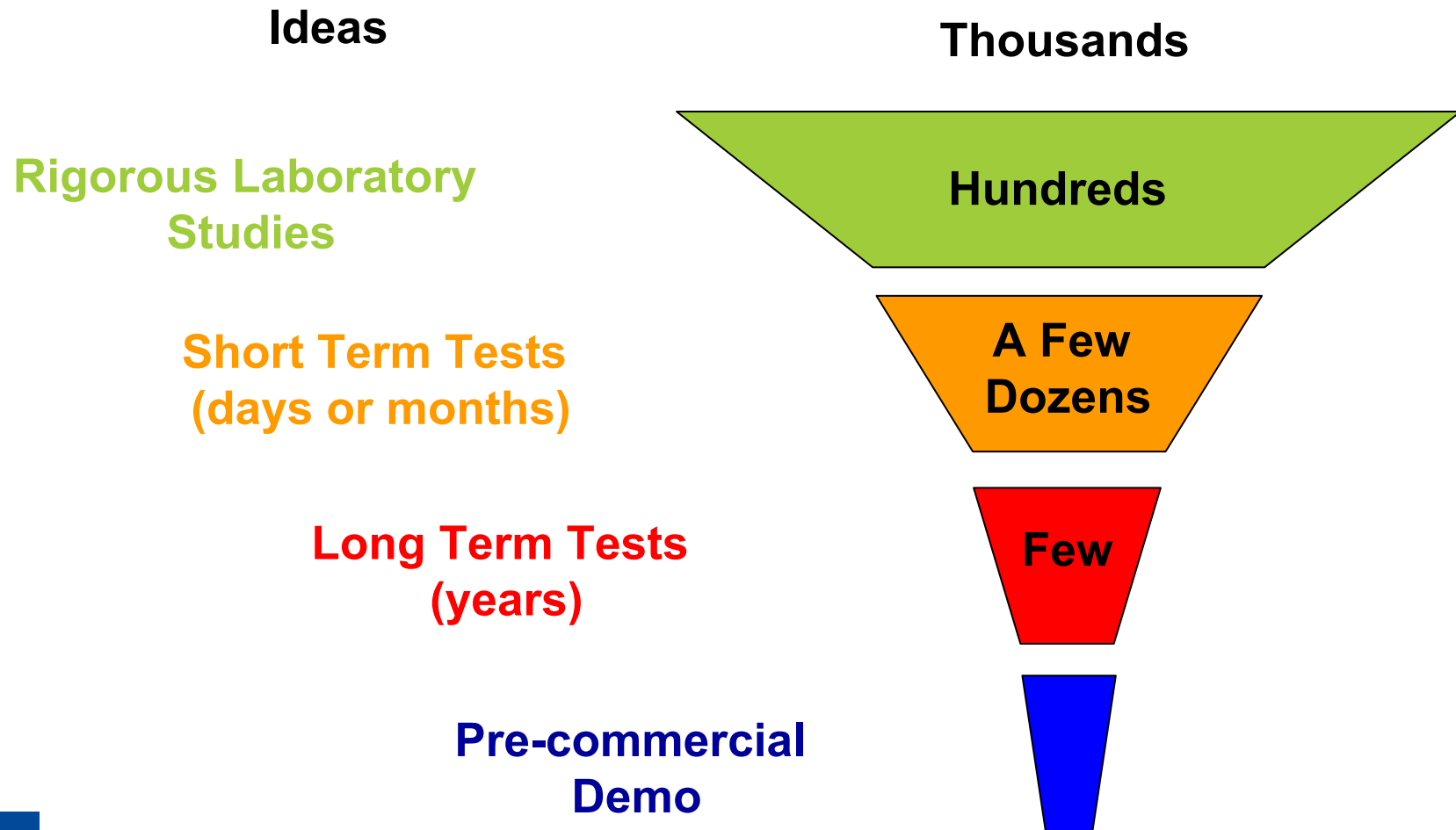
● General Difficulties

- Different level of maturity of sectors strategies
- Unequal definition & understanding of the concept of pilot plant / demo plant
- Technical categories versus broad categories
- Components
- Portfolio concept (technology matrix)
- Minimum thresholds

- (Integration of) Distributed Generation
- Multi-products plants (energy + other goods)
- Propriety technologies



● Technology Development Cycle



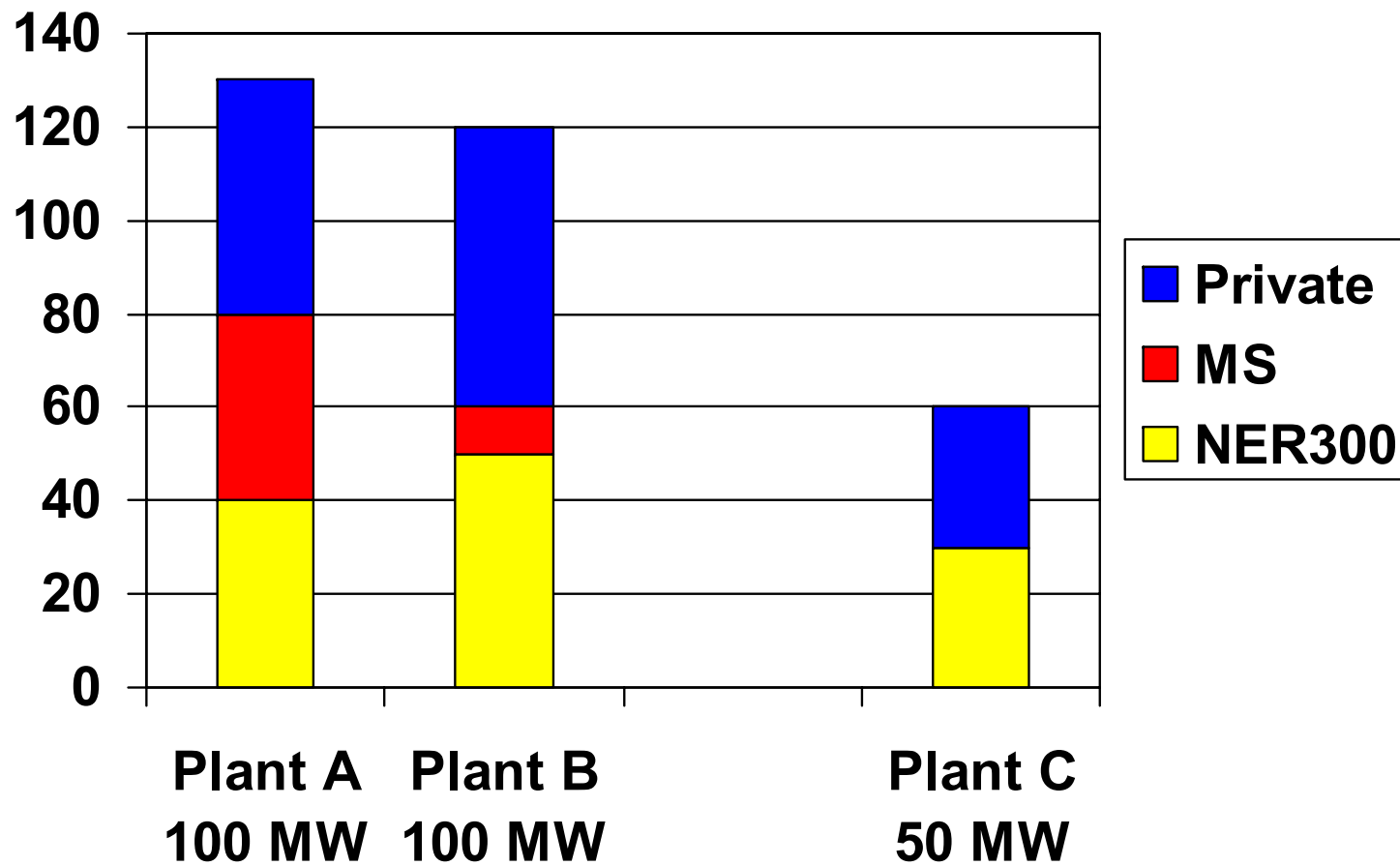
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● **Components – Eligible only within a complete system**

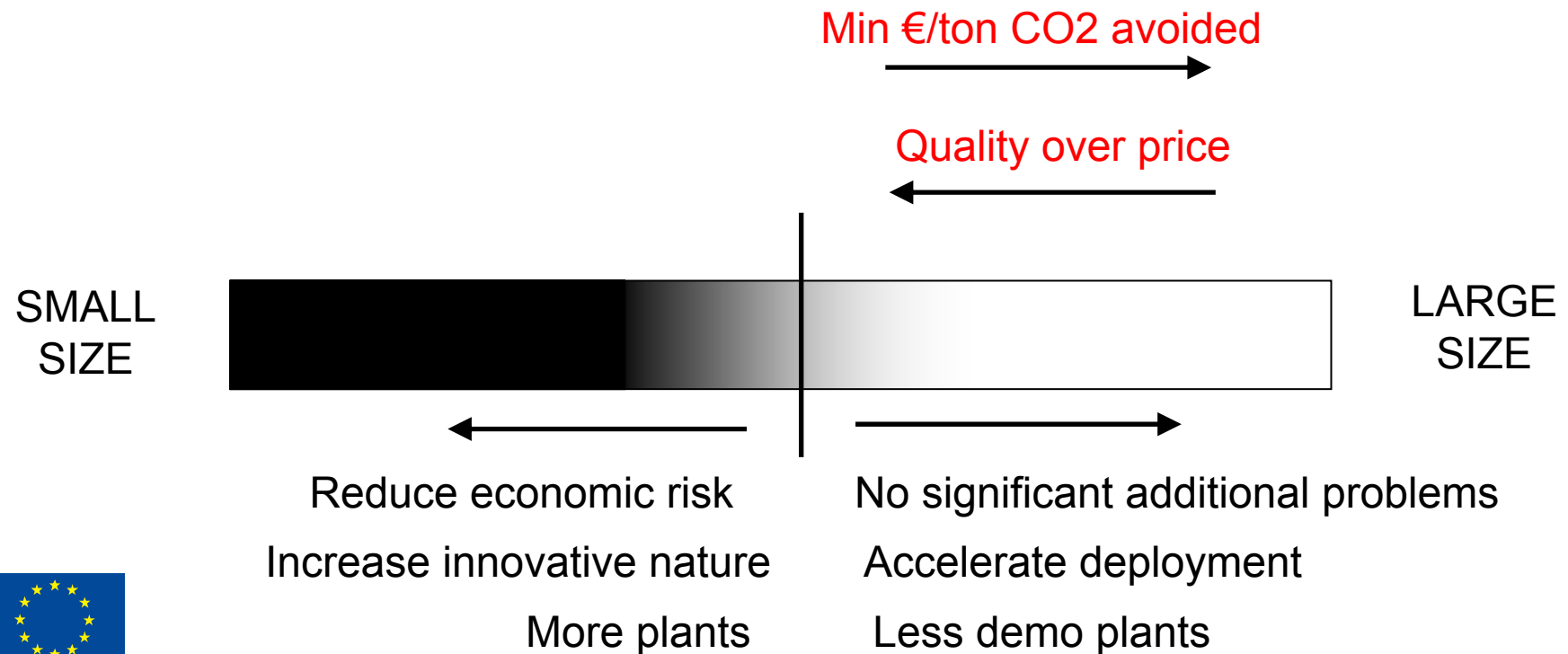
- **Demonstration of stand-alone components is outside the scope of the legal text**
- **Nevertheless, components are integral parts of demonstration plants**
- **Examples**
 - » CSP – heat storage (Concrete, PCM, ceramic thermocline etc.)
 - » CSP – dry cooling
 - » Off-shore wind – innovative substructures (jacket, tripods, quadropods)
 - » Geothermal - Kalina cycle (Rankine with ammonia+water as a working fluid)

● Value for money (at constant quality)



● Minimum thresholds

- Value for money incentivises smaller sizes
- Min €/ton CO₂ avoided favours larger sizes
- Tension between risk and sufficient size



● **Main changes to the original list**

- **List restricted to the first tranche (2011)**
- **Complete rewording of bio-energy category**
- **Complete revision of ocean energy category (work still in progress)**
- **Adjustment of several thresholds (work still in progress)**
- **Components. Compatibility made explicit**
- **CHP included in EGS**





Thank you for your attention



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