



Results of the stakeholder consultations on the 3rd call for large-scale projects: manufacturing workshops and survey

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Workshops on manufacturing topic in 3LSC

- **4 workshops in June/July** took place on manufacturing of equipment and components for: (1) renewable energy, (2) heat pumps, (3) storage and (4) electrolysers and fuel cells:
 - Very good (hybrid) participation +/- 100 participants in each workshop
 - Helped us with outreach and will bring more projects to 3LSC
 - Reports/recordings will be publicly available
- Plenty of **very interesting projects showcased**, a number of which would be eligible for IF funding.
 - BUT still some confusion between scope of manufacturing, pilots and general decarbonisation topics (and “n-th of a kind/roll-out projects not targeted by the IF)
 - Many projects presented in workshop were about
 - **application of technologies** and not manufacturing (→decarbonisation topic)
 - **pilots testing technology solution** that subsequently can be produced at larger scale (→pilot topic).
 - **Urgency to rollout** innovative projects is well understood but for a number of projects time will be needed for Financial Close and Entry into Operation

Workshops on manufacturing topic in 3LSC (cont'd)

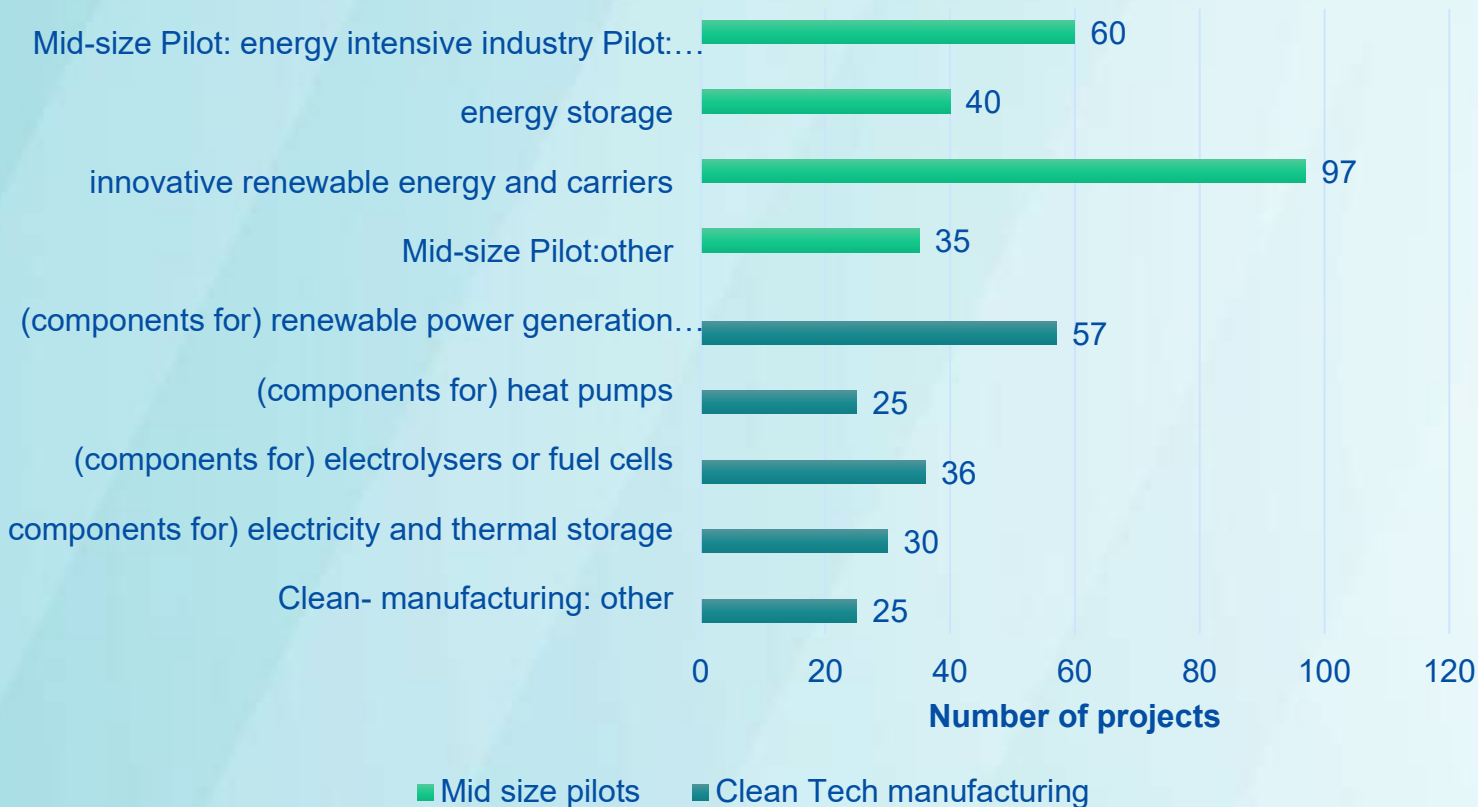
- Projects show **considerable diversity** in type of equipment and components
 - We have still not fully reached out to smaller components manufacturers (for wind turbines, electrolysers or fuel cells).
 - Broad scope needs to be considered: e.g. for renewables equipment: connection to the grid, for geothermal: pipes casing technology and storage of heat, for heat pumps: refrigerants and flexibility solutions, for electrolysers/fuel cells: smaller components e.g. bipolar plates as well as entire modules.
- **Difficulties with GHG methodology**
 - Especially if for small component manufacturing assumptions have to be made for the whole electricity/heating system (e.g. electrolysers running hours, fossil fuel displaced)
- **Difficulties with Relevant Costs methodology.**
 - Preference for “No Reference” methodology in case no reference product exists or is very different from the new one proposed.
 - In some cases, reference products are not commoditised or are more expensive than the new ones proposed.

Workshops on manufacturing topic in 3LSC (cont'd)

- Importance of **reducing the dependence on critical raw materials**
 - Caution needed as most of current technologies require critical raw materials with strong trade dependencies
 - Some projects are, however, able to demonstrate reduction of use, recycling approaches or even production of rare materials as a side product of activity (e.g., Li in geothermal)
- **Pilot projects** are likely to be costly and do not achieve big absolute GHG savings.
- **Pilots** could be penalised by absolute GHG savings and Cost Efficiency award criteria.
 - Proposal to apply “Vindeby” test (first offshore wind farm) to pilot projects
- **A range of other useful points made, from very generic to very specific:**
 - Difficulties in making successful application and highly competitive nature of the programme
 - Difficulties with tackling well “contribution to policy objective criteria” and “absolute emissions reductions”
 - Repetitions in applications forms
 - Very specific points e.g. on assessing revenue streams for energy storage

Survey results : Main areas selected are **renewable energy and carriers pilots** and **manufacturing for renewable power generation**

Selection of areas



220 answers:

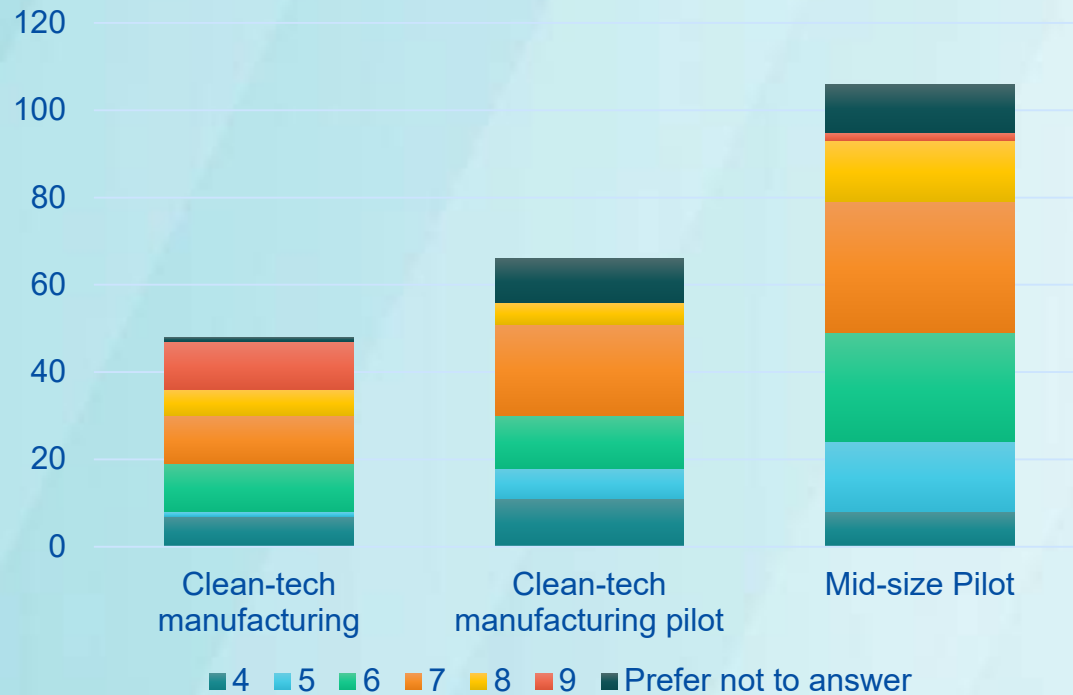
114 Clean-Tech manufacturing (including **66 clean-tech manufacturing pilots**)

106 Mid-size pilots

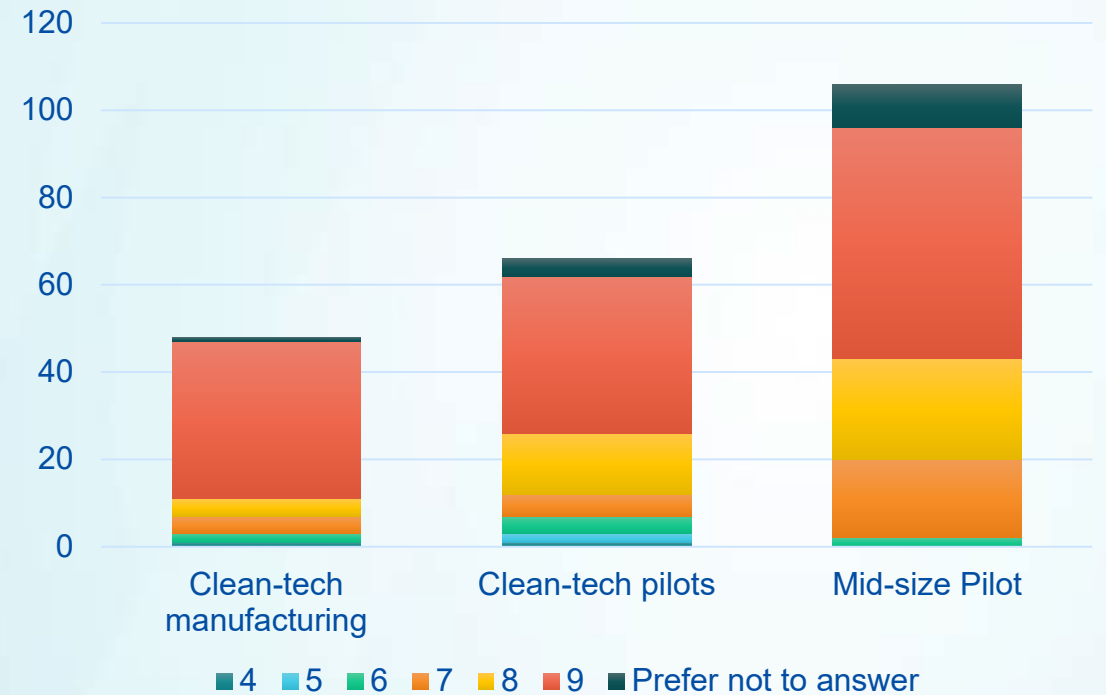
* Many projects selected several areas resulting in a higher number of data points than answers

Most projects start at TRL 6-7 and envision reaching TRL 9 at the end of the project

Starting TRL level

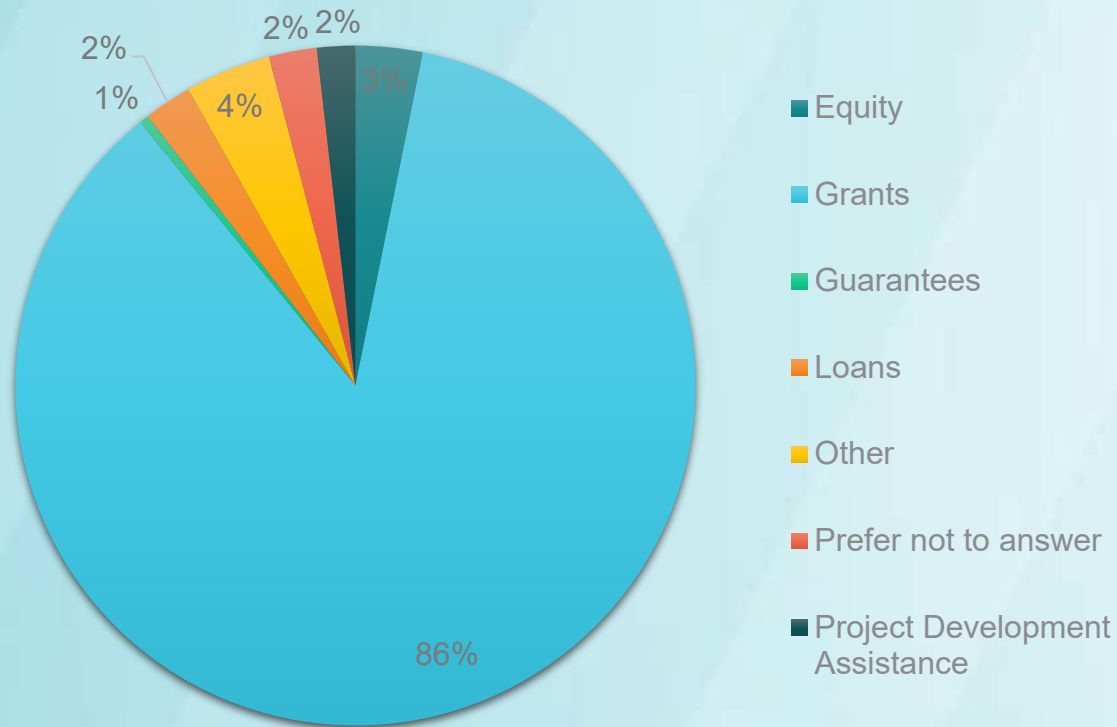


TRL level after project

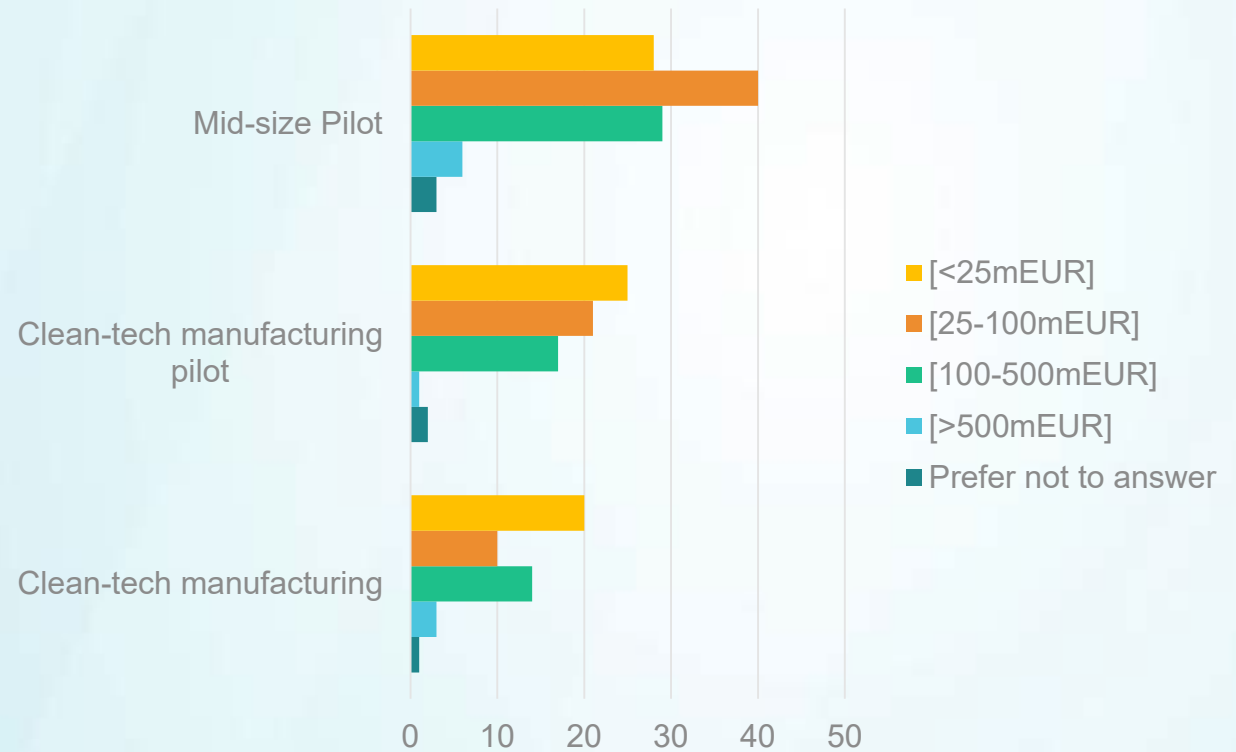


86% of projects need most of all grants
with about 2/3 needing less than €100 million
and 1/3 from €25 to €100M

Type of funding

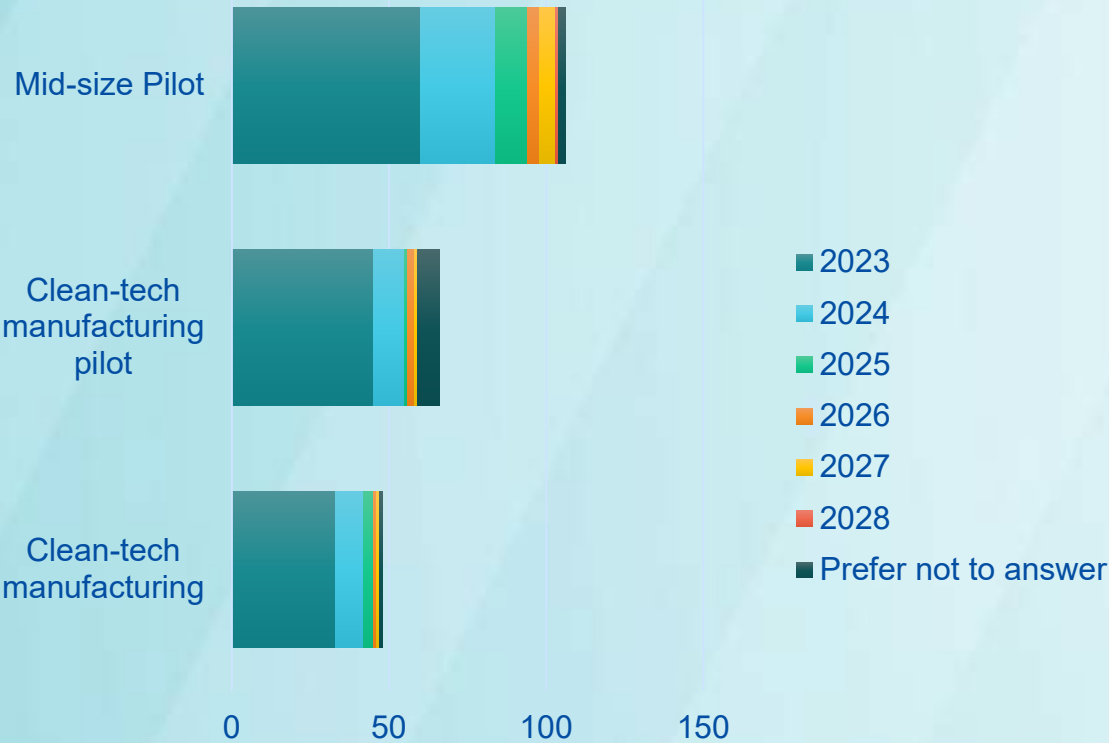


Size of Funding

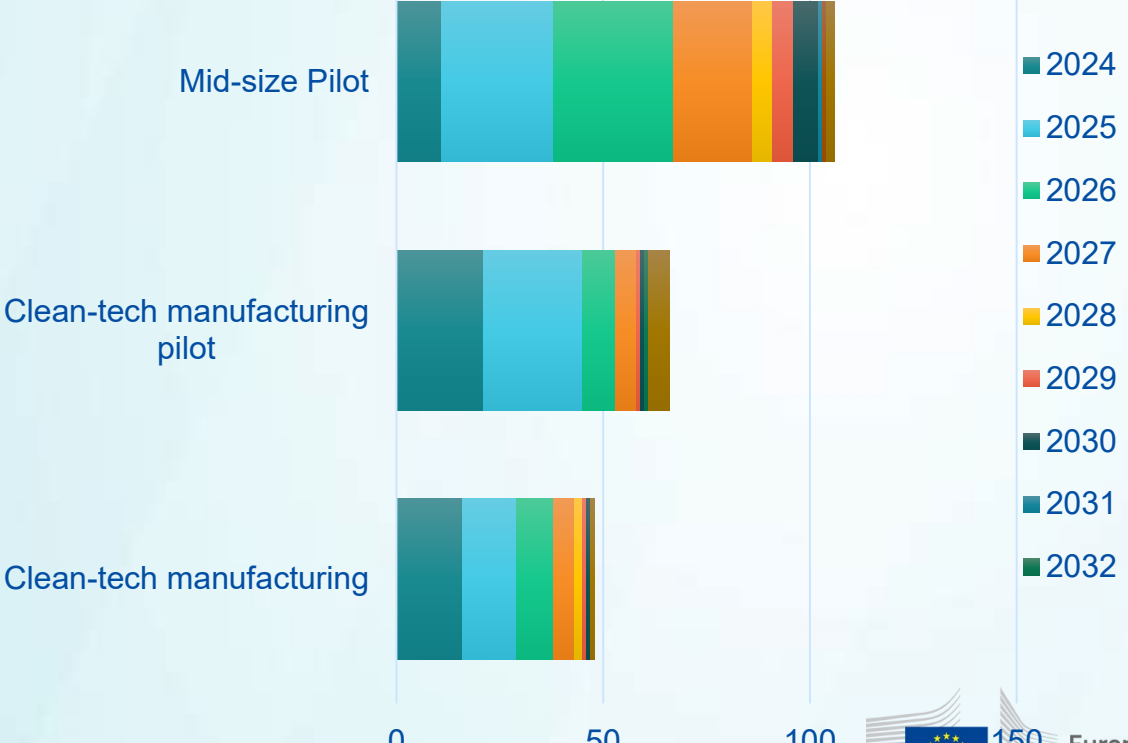


Most projects expect to reach FID by 2023 and enter into operation before 2027

When do you expect to reach a Final Investment Decision?



When do you expect to be able to enter into operation?



A quarter of projects have already secured funding, while another quarter have already applied for funding

Stage of Funding

