

# Supporting clean energy RD&D: Grants for all?

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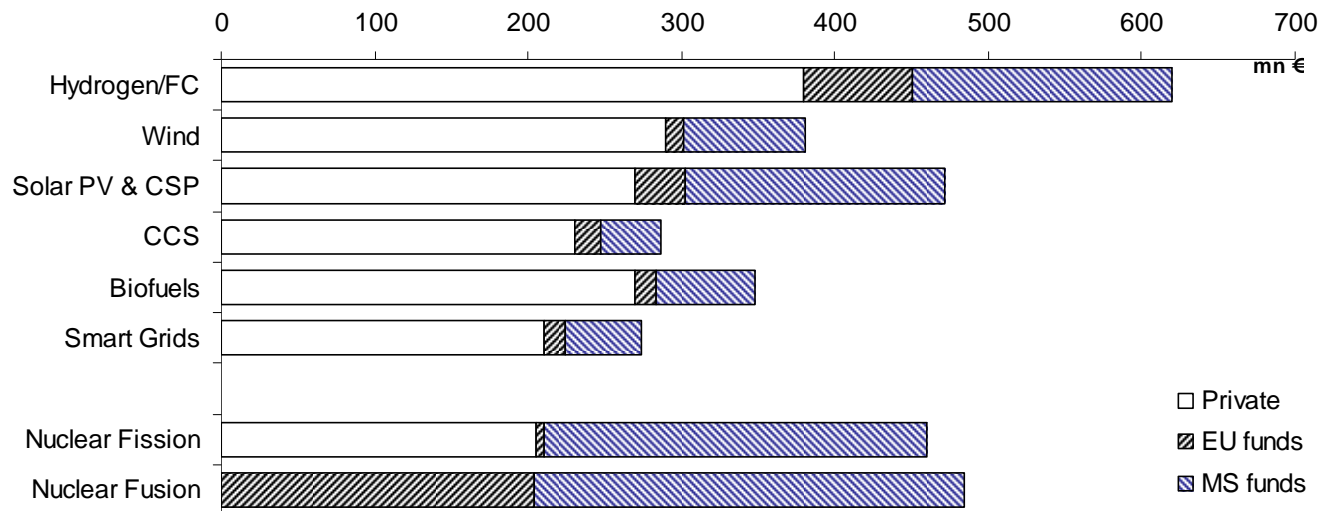
Contribution based on THINK Report N° 1:



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# RD&D investments targeting green technologies need to be more than doubled.

- Reaching 2050 climate targets involves increasing the share of low-carbon technologies substantially
- RD&D investments are already taking place...



- ...but financing gap of €47-60 bn between recent expenditures and those deemed necessary (SET-Plan)

## Do new clean energy technologies develop spontaneously?

- EU ETS does not provide a sufficiently high and credible future carbon price
- Hard (and also undesirable) to capture all the benefits from RD&D within the innovating company
- Typically very high capital investments paired with substantial economic, technological and regulatory uncertainties
- Private investors tend to focus on short-term revenues, whereas climate policy has a 2050 horizon



**Additional public support is needed to reach the socially optimal level of RD&D**

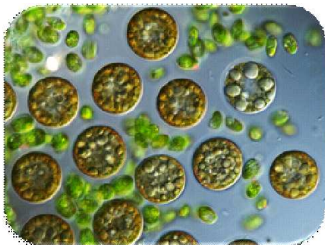
## A balanced portfolio of RD&D projects needs to be designed.

- This will facilitate
  - Acceleration of decarbonization to reach mid-term 2020 climate objectives
  - Development of a diversified technology mix enabling the achievement of long-term 2050 objectives
- Evaluation criterion: Expected overall reduction of CO<sub>2</sub> emissions per € of support provided
- Cooperation and coordination among MS and EU support policies have to be improved
  - Initiation of European Energy Research Alliance (aimed at realizing pan-European RD&D pooling national and EU resources) step into the right direction

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### EIF equity investments

- European Investment Fund provides risk finance to SMEs via intermediaries
- E.g.: 2008 investment in in Capricorn Cleantech Fund, which in turn invests in € 4-6 mn projects (e.g. SBAE Industries)



### EC EPR grants to CCS

- € 1 billion in total to 6 CCS demonstration projects
- Approved in 2009



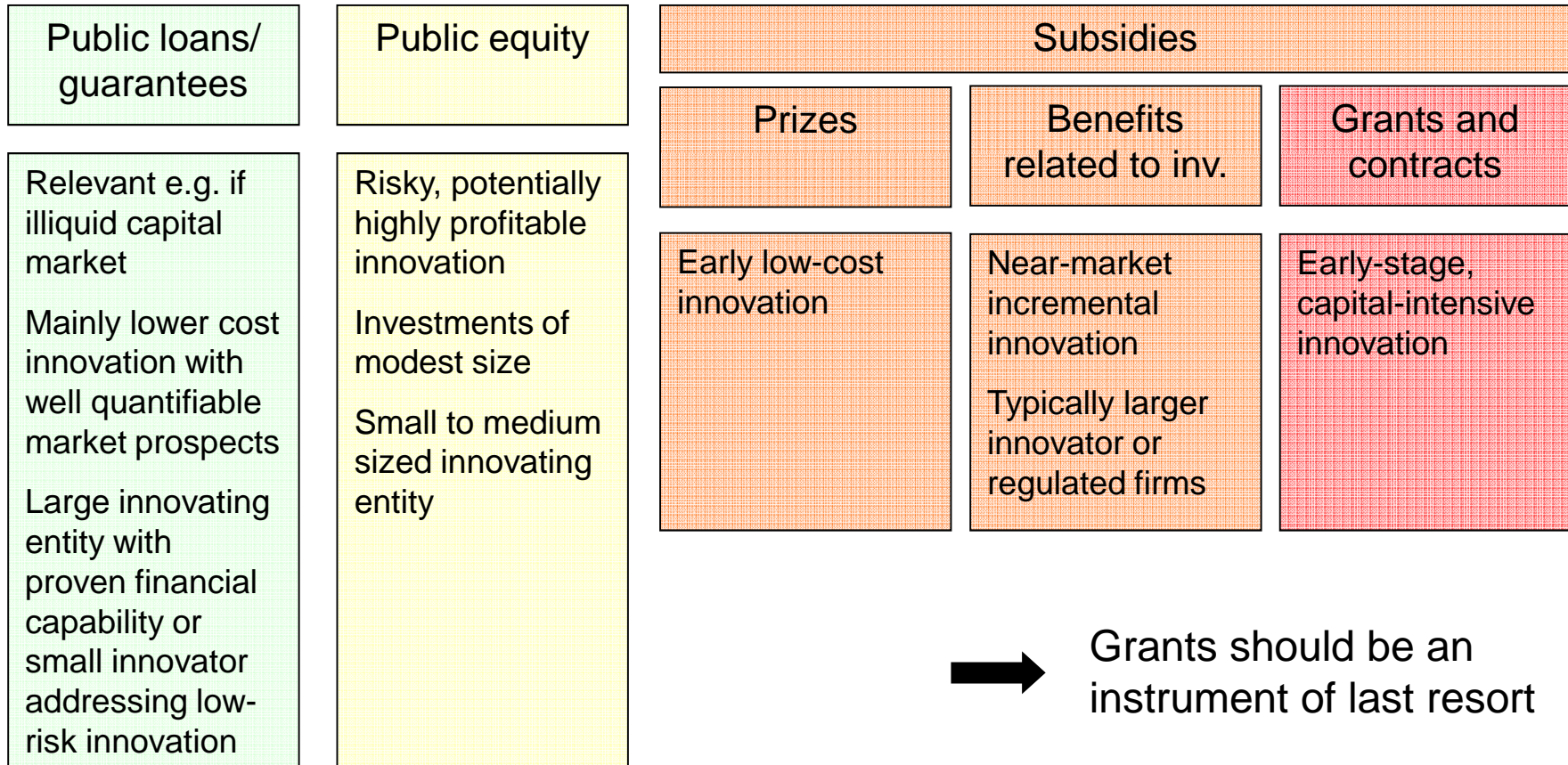
### DOE H<sub>2</sub> technology prize

- \$ 1 million
- Competition opened in 2010
- Clearly specified technical criteria for advancements in materials for H<sub>2</sub> storage



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Increasing public costs →



Encourage efficiency while not discouraging private sector participation.

- Use competition for funds whenever possible
- Public funding should be output-driven whenever suitable with engagement of private innovators
  - High project costs might require the provision of at least a part of the funds upfront
  - Projects with high probability of failure might require support unconditional to performance
- Institutions set up to allocate funds need to be lean and flexible enough to avoid institutional inertia and lock-in

**Thank you very much for your  
attention!**

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