



Innovation fund

Final conference - ESCSS Phase II
27 September 2018

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European Commission

Science Advice for Policy by European Academies

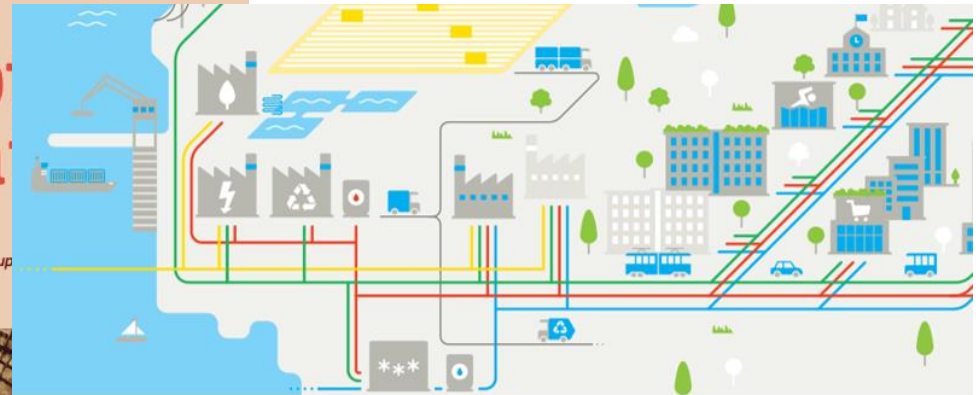


Novel carbon capture and utilisation technologies



Scientific Advice Mechanism (SAM)

Novel carbon capture and utilisation technologies



Research and

SAM
Science Advice for Policy by European Academies



Research and Innovation

17 September 2018: Final conference

Study: Identification and analysis of promising carbon capture and utilisation technologies
Technology and Regulatory Assessment



Climate Action

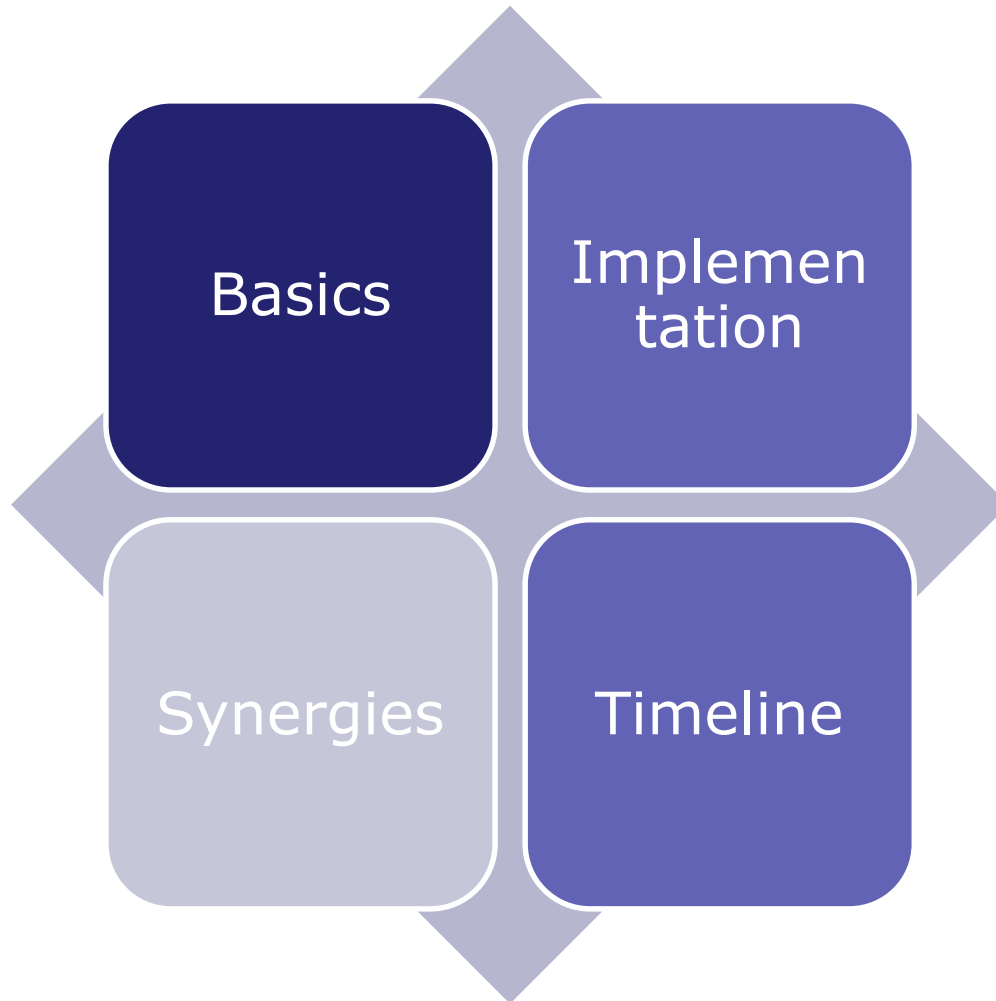
Conversion CCU technologies (1/2)

- ✓ One piece of the puzzle towards deep decarbonisation
- ✓ Large-scale expansion of CCU technologies will require *large volumes of renewable energy* and hydrogen at *competitive prices*
- ✓ Important as *carbon feedstock* in the long run and possibly as fuel in HDVs, shipping, aviation
- ✓ Some *mineralisation* routes provide the opportunity to solve two problems at the same time

Conversion CCU technologies (2/2)

- ✓ *More R&D* is needed for both the capture part, including direct-air capture, and the conversion part
- ✓ *Industrial symbiosis*: CCUS clusters for optimal use of energy and material flows: cross-sectoral innovation is needed
- ✓ *LCA on a case by case* basis to establish GHG emission impact of individual projects
- ✓ *Regulatory framework*: RED II, ETS, public procurement and state-aid rules

Innovation Fund



Basics - EU ETS Directive 2018/410

	NER300	Innovation Fund		Impact
Size	300m allowances	≥ 450m allowances	➔	Substantial increase in funding
Scope	Limited to renewable energy and CCS	Extended to energy-intensive industry	➔	Greater technology coverage
Grant amount	Up to 50% of relevant costs	Up to 60% of relevant costs	➔	Higher support
Disbursement of grants	Only upon verified avoidance of CO ₂ emissions	40 % of support need not be dependent on verified avoidance of CO ₂ emissions	➔	Upfront risk-sharing possible

Project selection – Innovation Fund

Effectiveness

Relative GHG reductions

Innovativeness

Efficiency

Costs per emissions reduced

Viability and maturity

Scalability

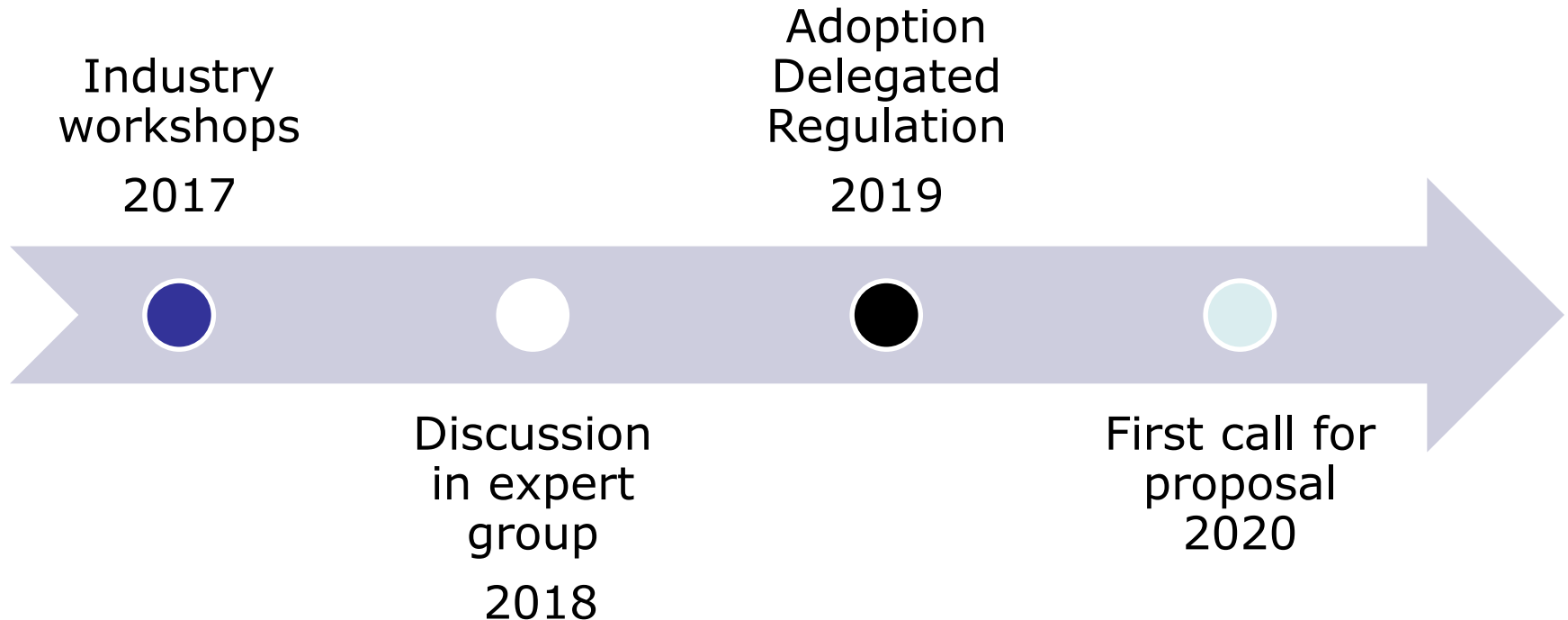
Value chain effects

Market size

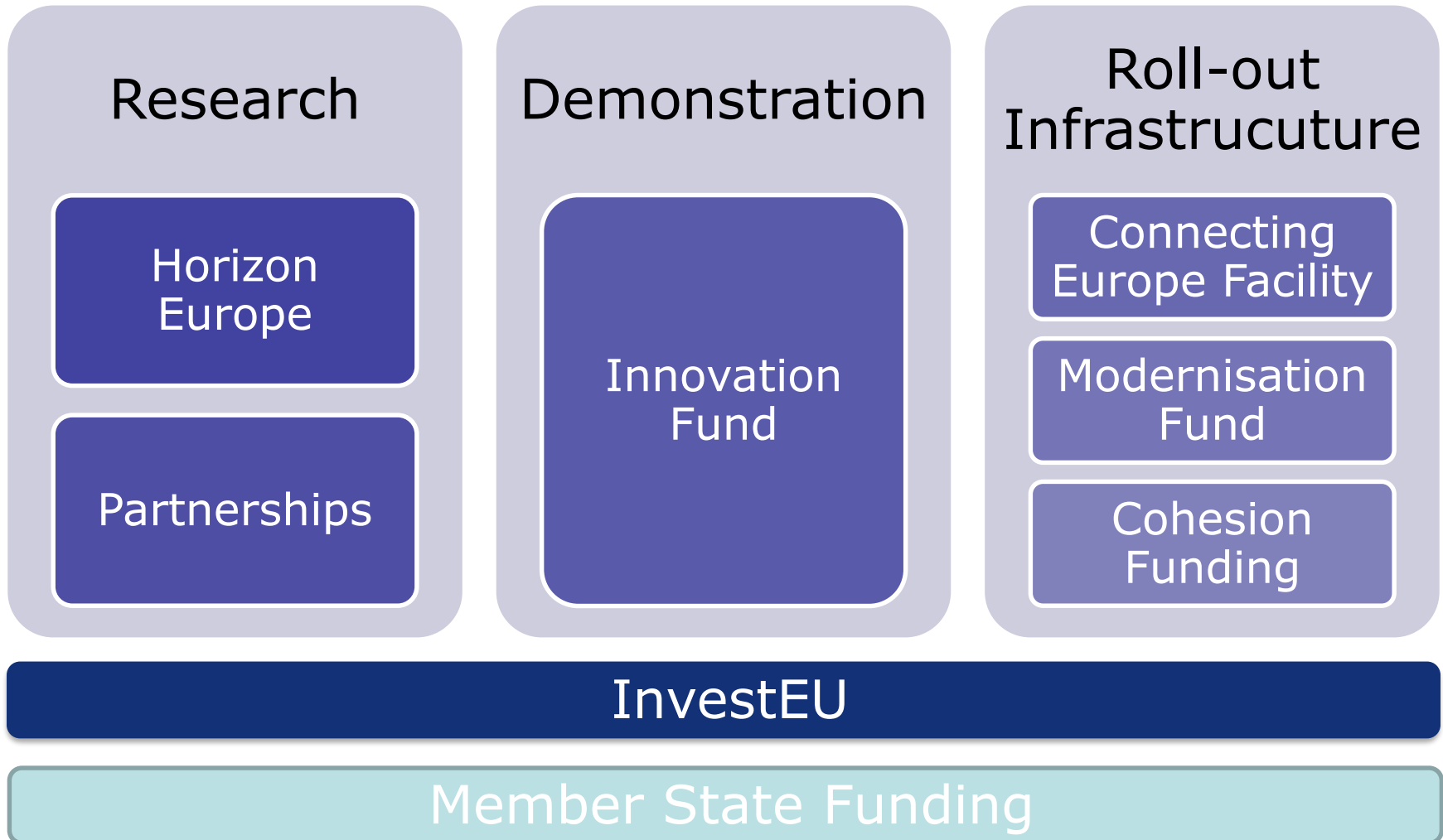
Spill-over to other sectors

Project development assistance

Timeline – Innovation Fund



Synergies – Innovation Fund



Innovation fund - CCU specificities

- ✓ *Environmentally safe CCU that **contributes substantially to mitigating climate change***
- ✓ *projects involving **CCU** shall **deliver a net reduction** in emissions and ensure **avoidance or permanent storage** of CO₂*
- ✓ *CO₂ stored or avoided on a **sufficient scale***

EU Climate Action website

https://ec.europa.eu/clima/policies/lowcarbon_en

Thank you for your attention!