

Hydrogen series – Part 1: Green hydrogen: A guide to policy making

TUESDAY, 9 MARCH 2021 • 10:00-10:30 CET

SPEAKER



Emanuele Bianco
Knowledge and Policy
IRENA



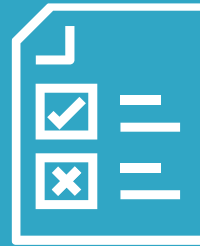
The **slides** and a
recording at
[https://irena.org/events/
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You are all currently
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If you have **Questions** to the speaker please use the **Q&A**

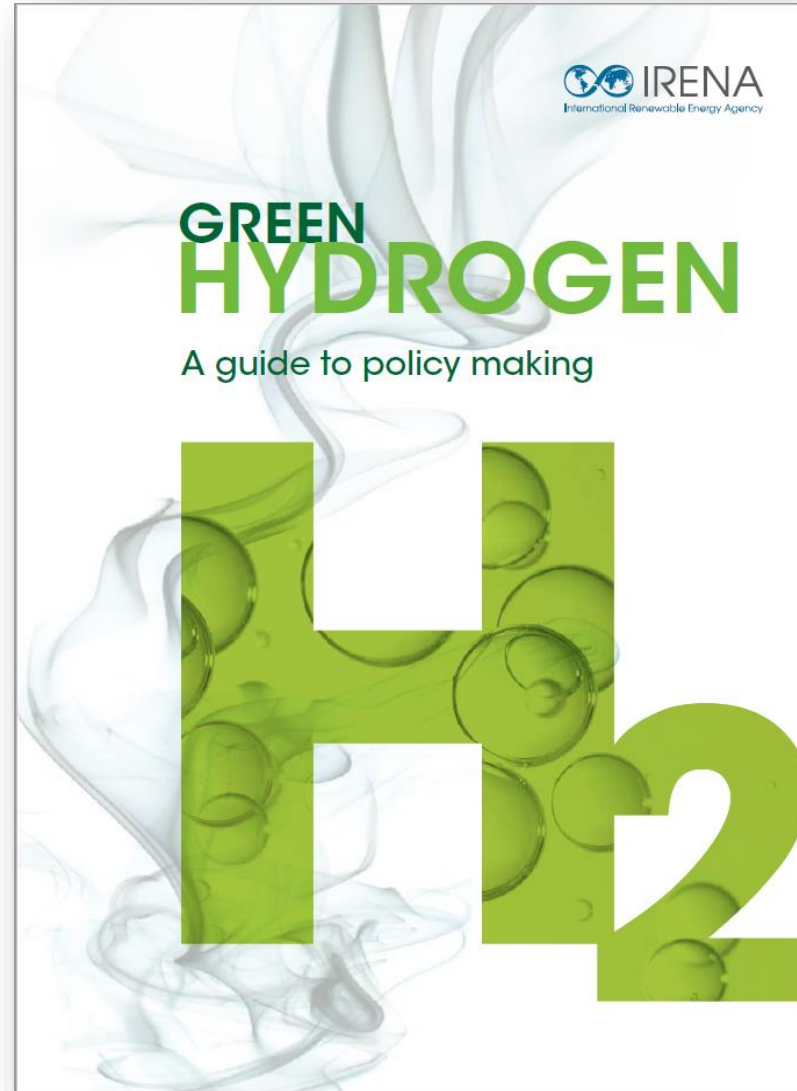


Tell us how we did in the **survey** to help us improve

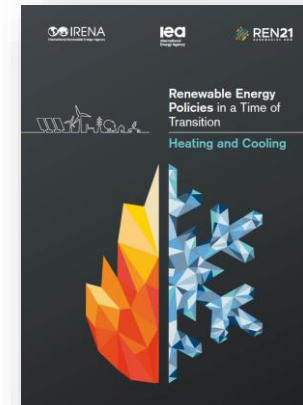
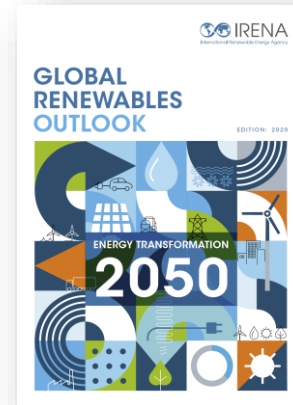
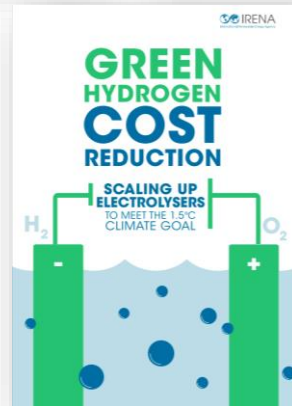
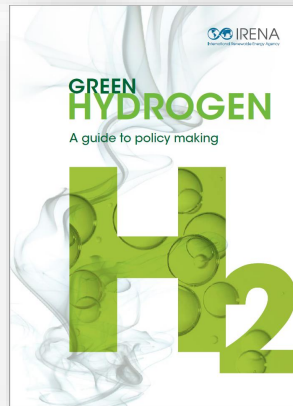
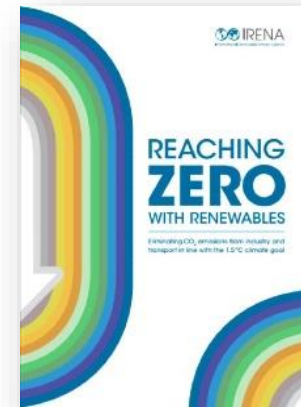
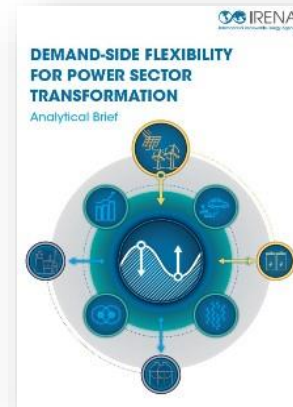
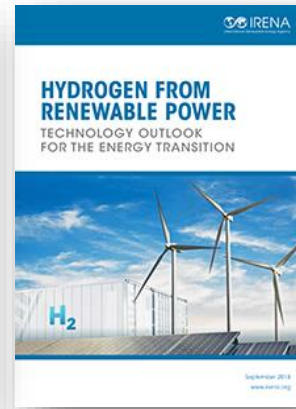
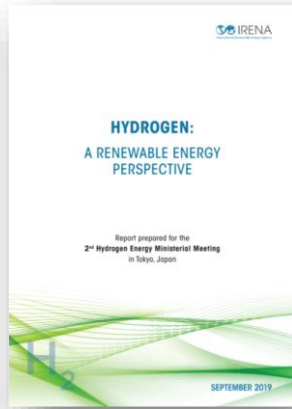
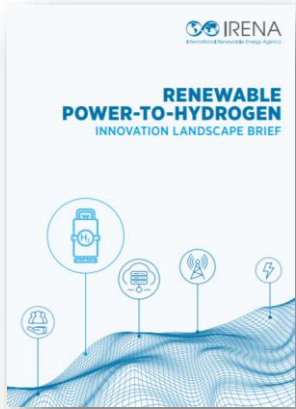


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Green Hydrogen: A guide to policy making



IRENA's work on green hydrogen






Upcoming:

- **SECTORIAL POLICY BRIEFS**

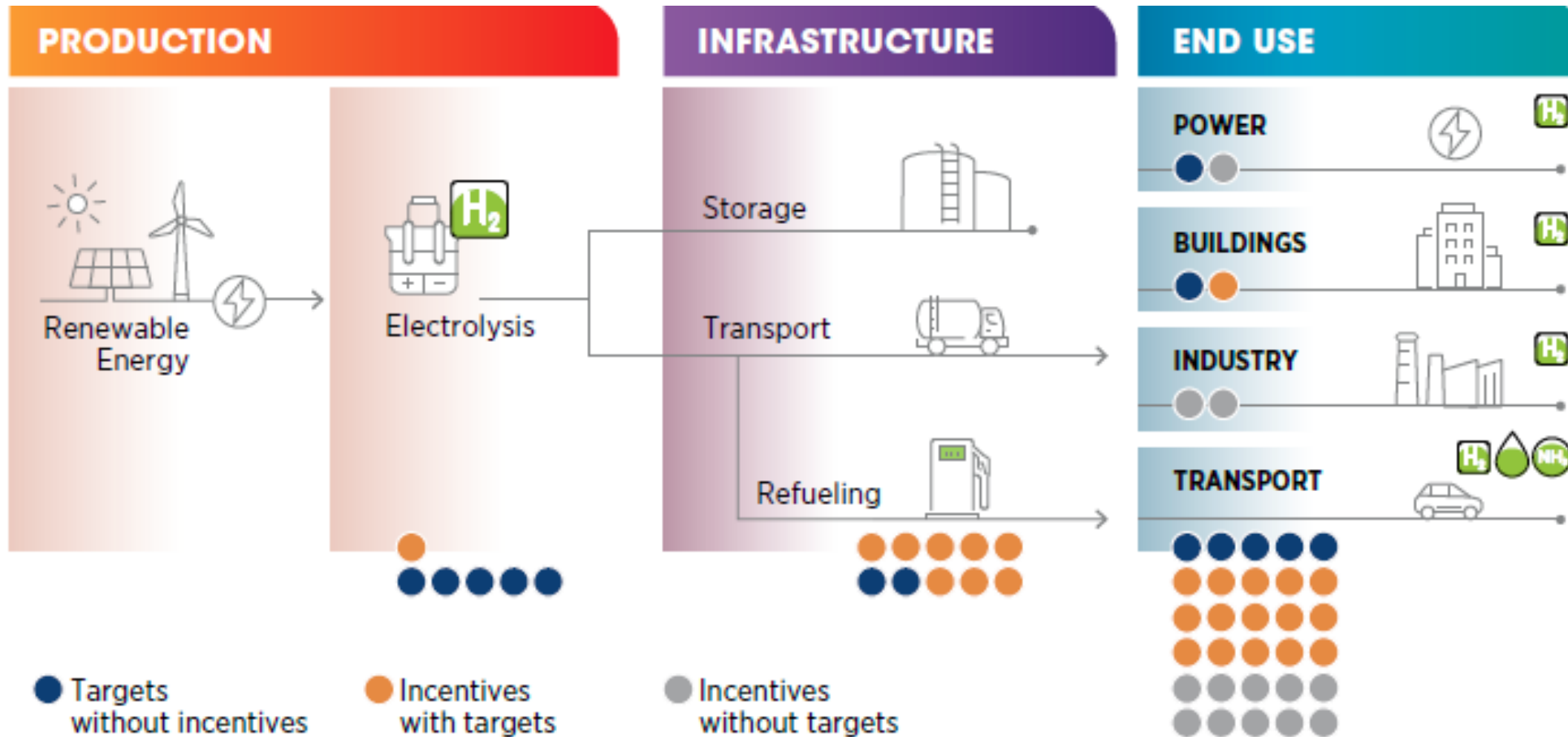
What is “green” hydrogen?



Color	GREY HYDROGEN	BLUE HYDROGEN	GREEN HYDROGEN
Process	SMR or gasification	SMR or gasification with carbon capture (85-95%)	Electrolysis
Source	Methane or coal 	Methane or coal 	Renewable electricity 

The “old wave” of hydrogen

Hydrogen policies at a global level by segment of the value chain

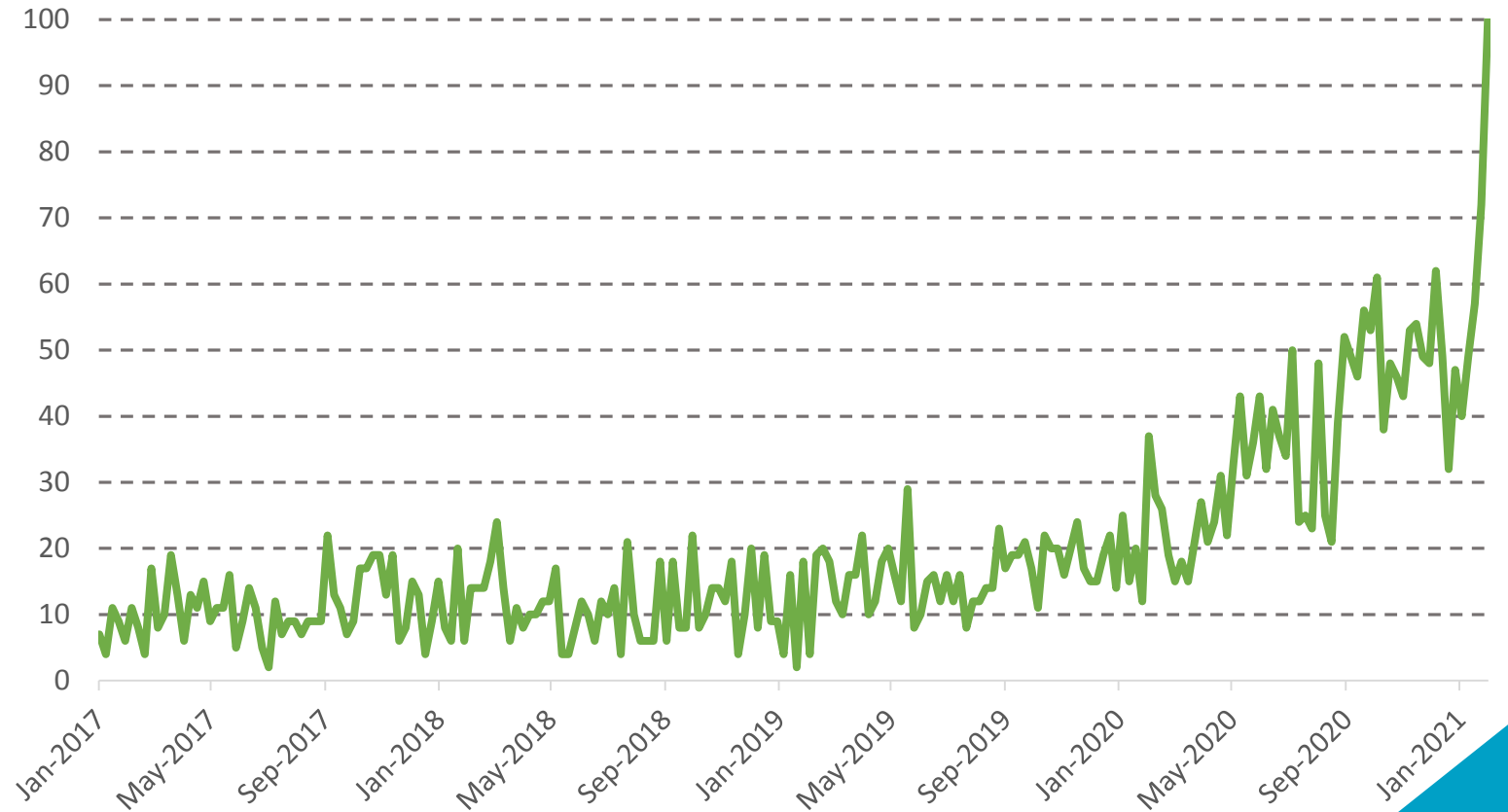


15 countries + EU considered

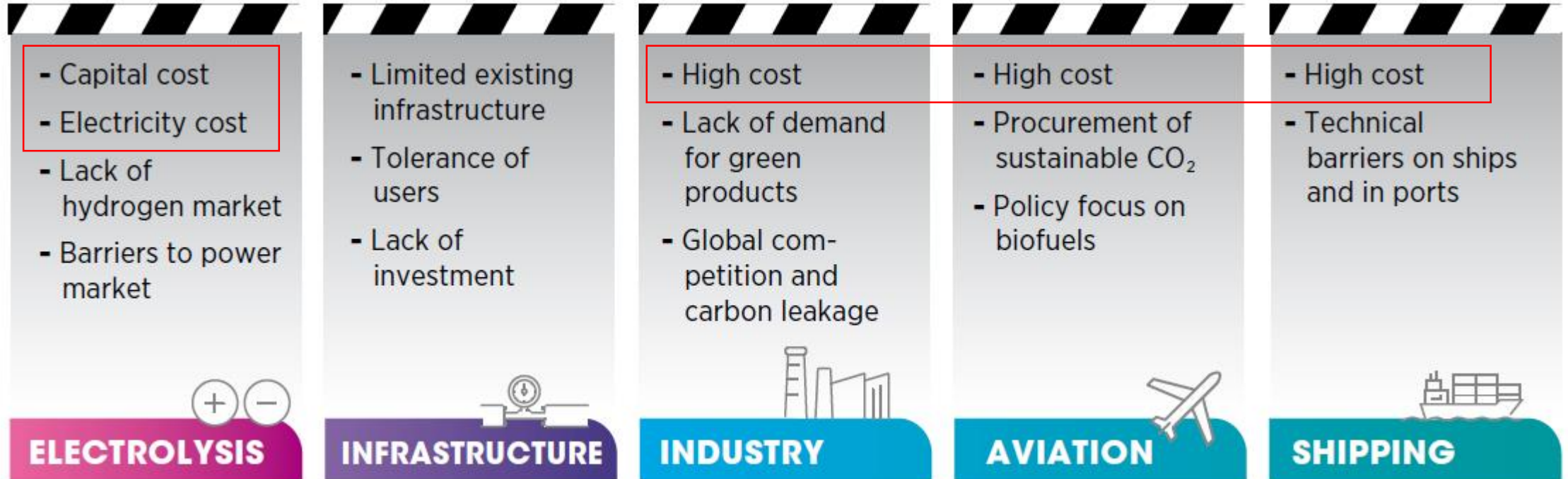
The new wave of green hydrogen



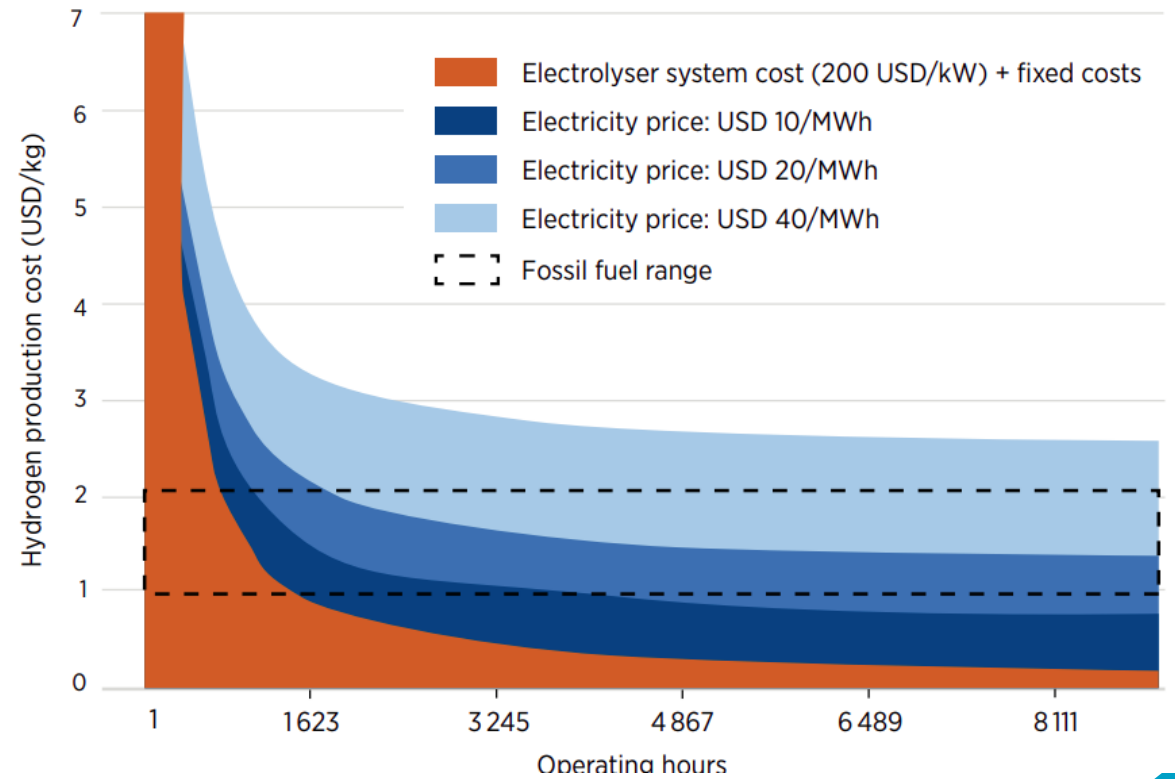
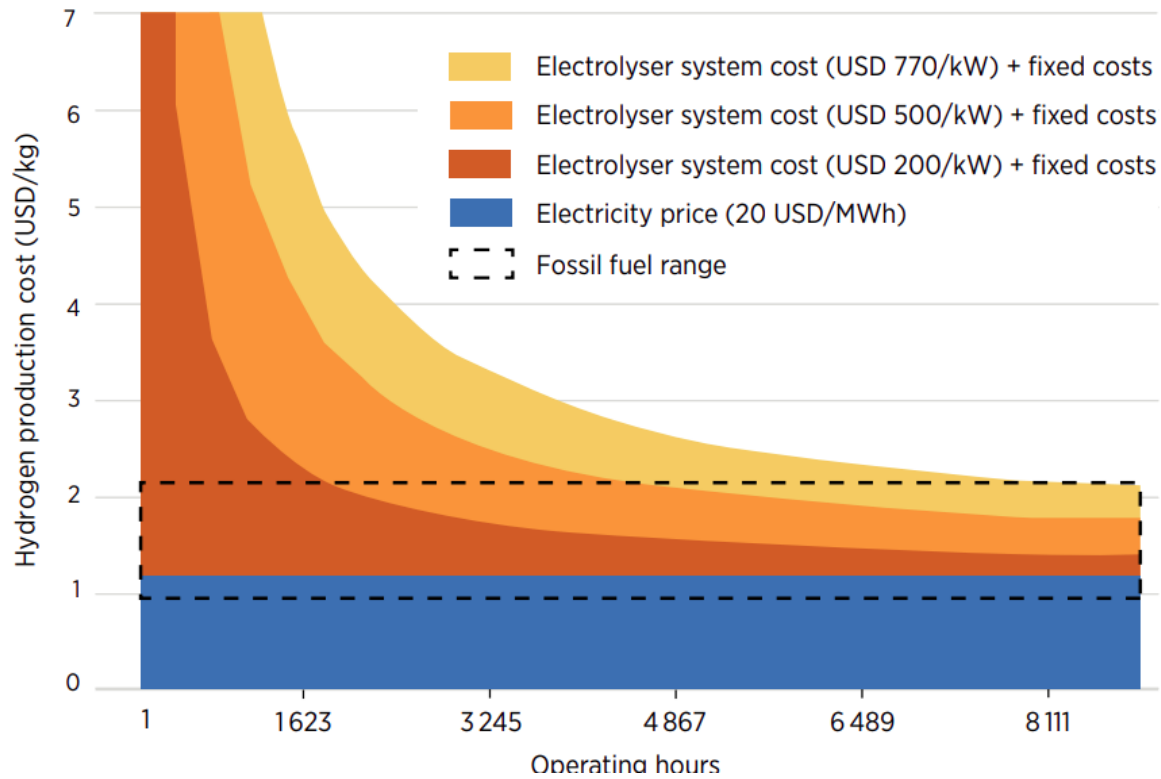
“Green Hydrogen” indexed research volume on Google



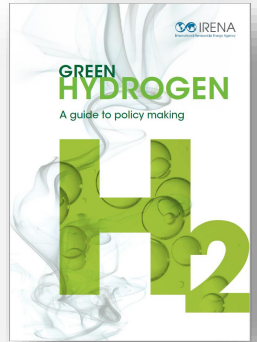
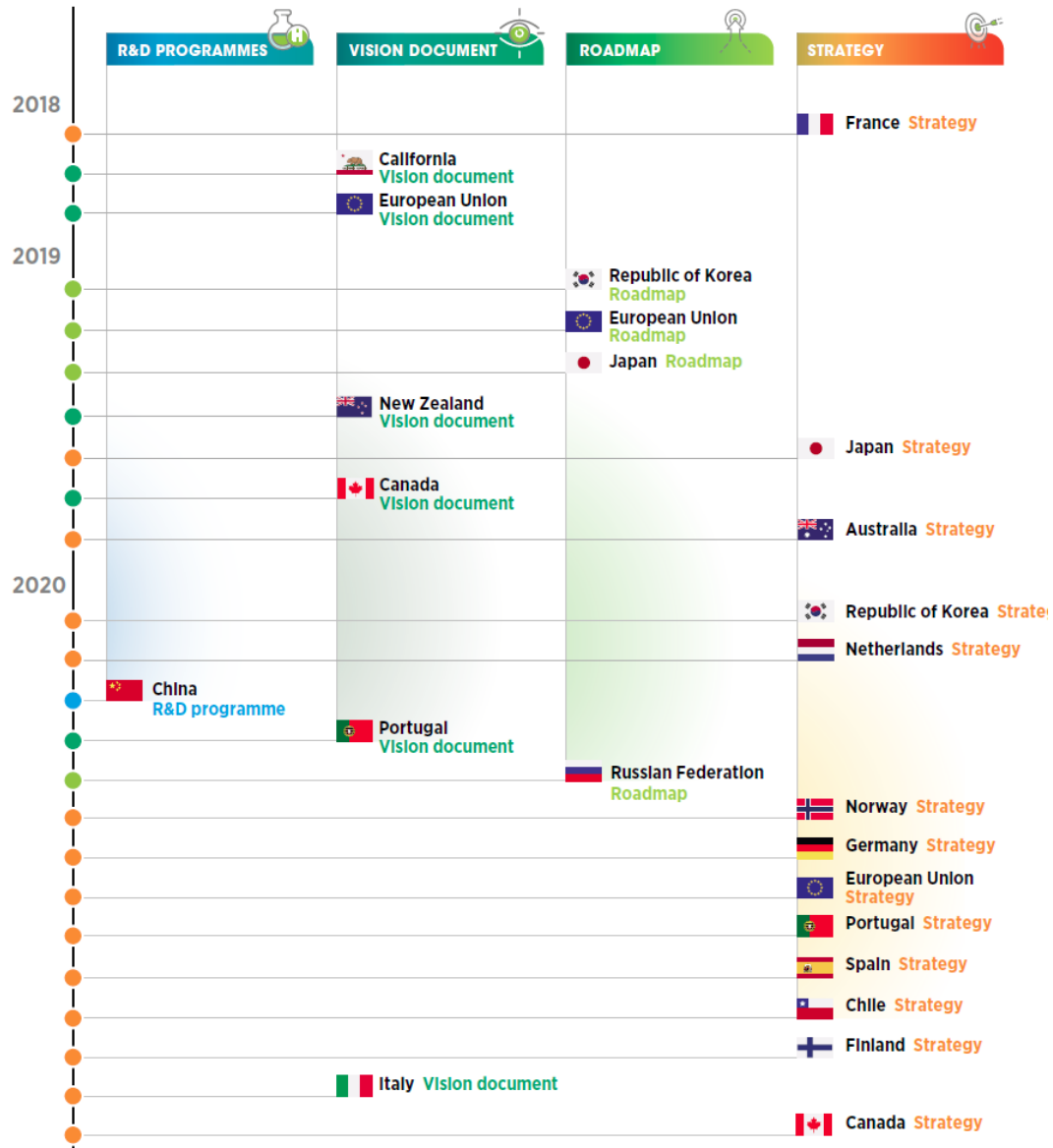
Barriers to the deployment of green hydrogen



Barriers to the deployment of green hydrogen - costs



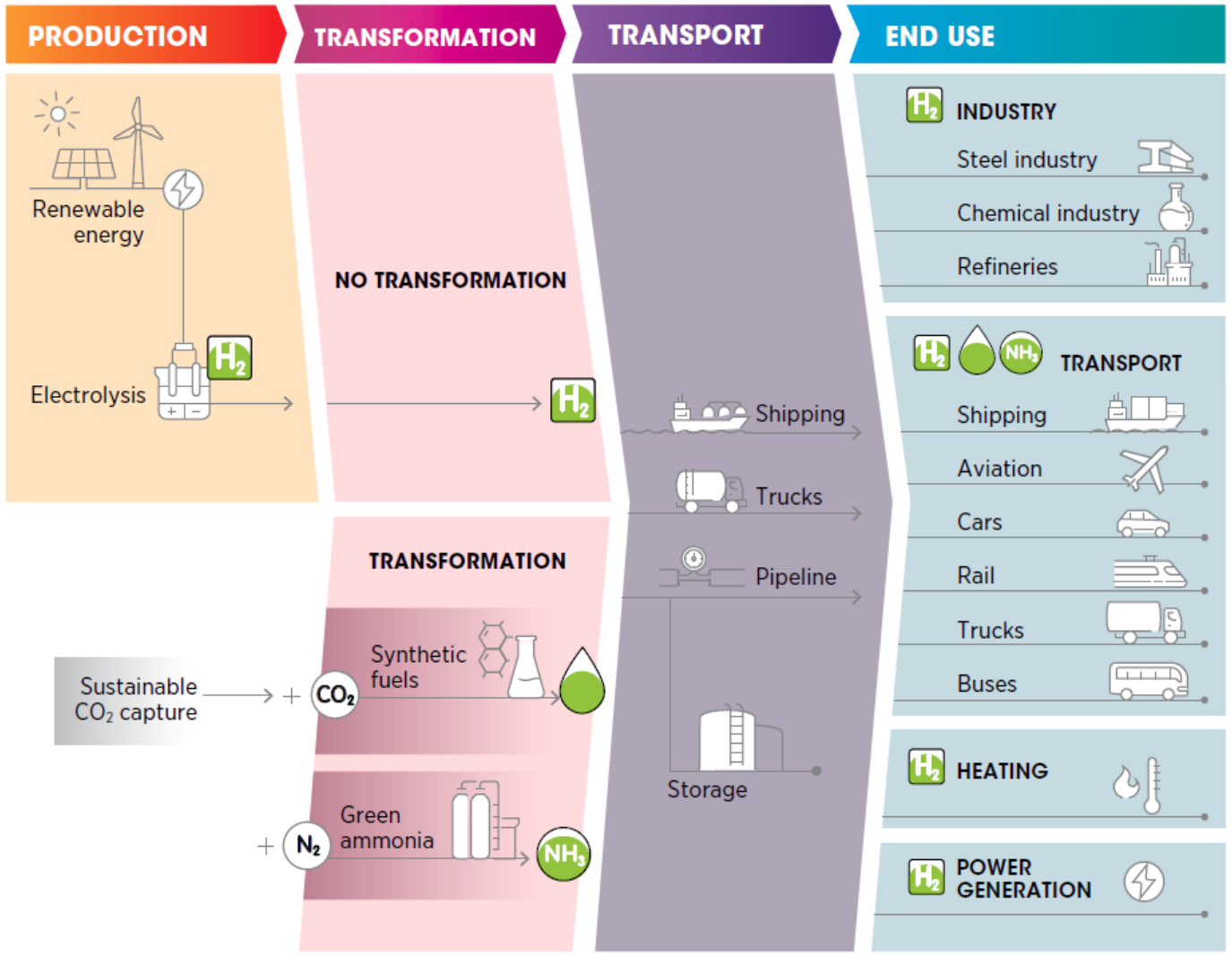
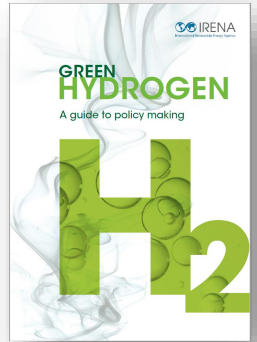
Policy pillar 1: National hydrogen strategies



Upcoming Strategies:










-  **Austria**
-  **Paraguay**
-  **Colombia**
-  **United Kingdom**
-  **Denmark**
-  **Uruguay**
-  **Morocco**
- ... and more to come
-  **Oman**

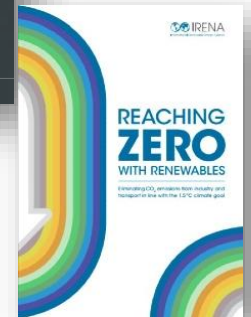
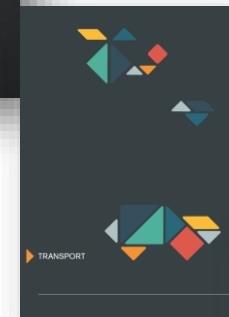
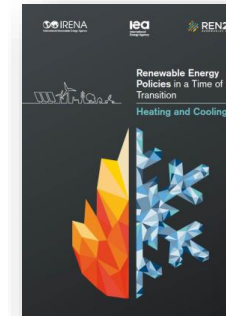
Policy pillar 2: Policy priorities



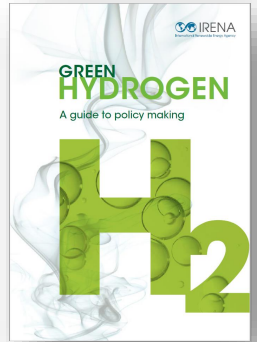
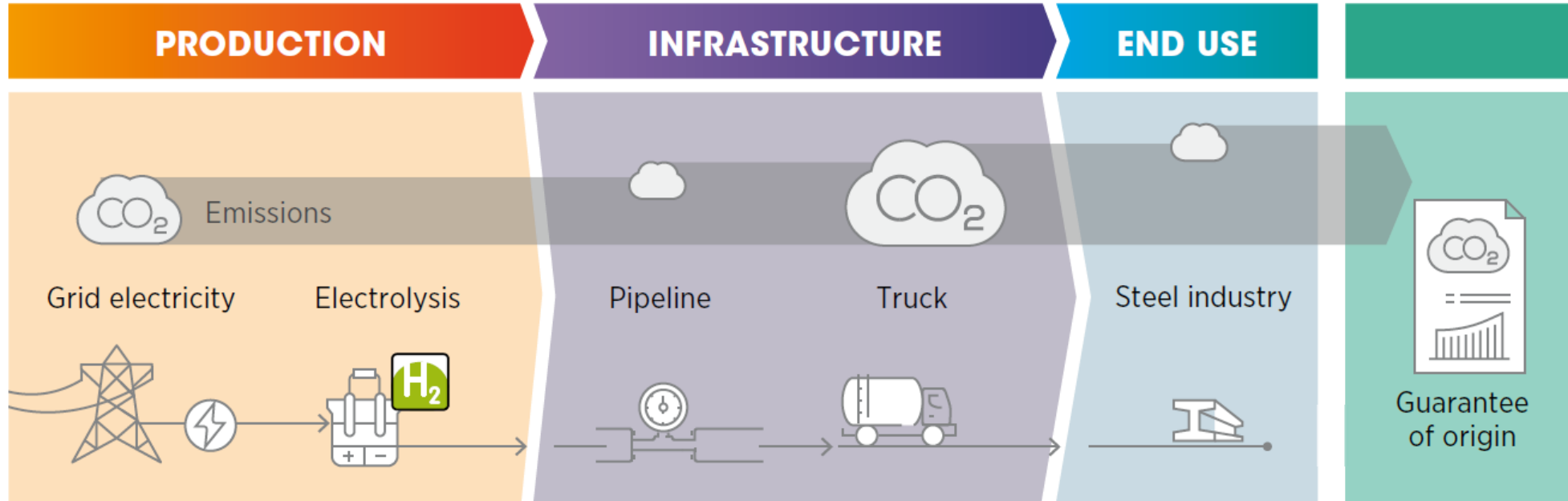
- **Green hydrogen can be utilised in a wide range of end-uses**
- **Identify the applications that provide the highest value and prioritise action towards them**
- **Maintain the principle of additionality**

Hydrogen as part of a wider technology portfolio for the Energy Transition

	RENEWABLES 	DIRECT ELECTRIFICATION 	ENERGY EFFICIENCY 	GREEN HYDROGEN 
HEATING 	<ul style="list-style-type: none"> Solar water heaters, direct geothermal use, biomass (low-grade heating) 	<ul style="list-style-type: none"> Heat pumps 	<ul style="list-style-type: none"> Retrofit of buildings Technological advancement 	<ul style="list-style-type: none"> High-grade heating
INDUSTRY 	<ul style="list-style-type: none"> Solar drying, biomass (productive uses) 	<ul style="list-style-type: none"> Electric industrial application (e.g. arc furnaces) 	<ul style="list-style-type: none"> Use of best available technologies 	<ul style="list-style-type: none"> Steelmaking refineries Chemical industry
LAND TRANSPORT 	<ul style="list-style-type: none"> Biofuels 	<ul style="list-style-type: none"> Battery electric vehicles 	<ul style="list-style-type: none"> Performance standards Travel avoidance 	<ul style="list-style-type: none"> FCEVs
SHIPPING 	<ul style="list-style-type: none"> Biofuels Wind energy 	<ul style="list-style-type: none"> Short-distance shipping 	<ul style="list-style-type: none"> Ship design Operation optimisation Travel avoidance 	<ul style="list-style-type: none"> Green ammonia Methanol
AVIATION 	<ul style="list-style-type: none"> Biojet fuels 	<ul style="list-style-type: none"> Short-distance aviation 	<ul style="list-style-type: none"> Plane design Travel avoidance 	<ul style="list-style-type: none"> Hydrogen and synthetic fuels for aviation

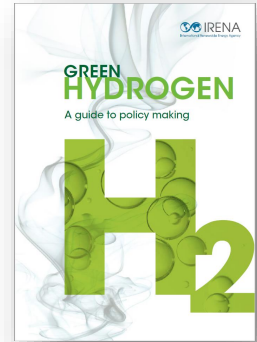
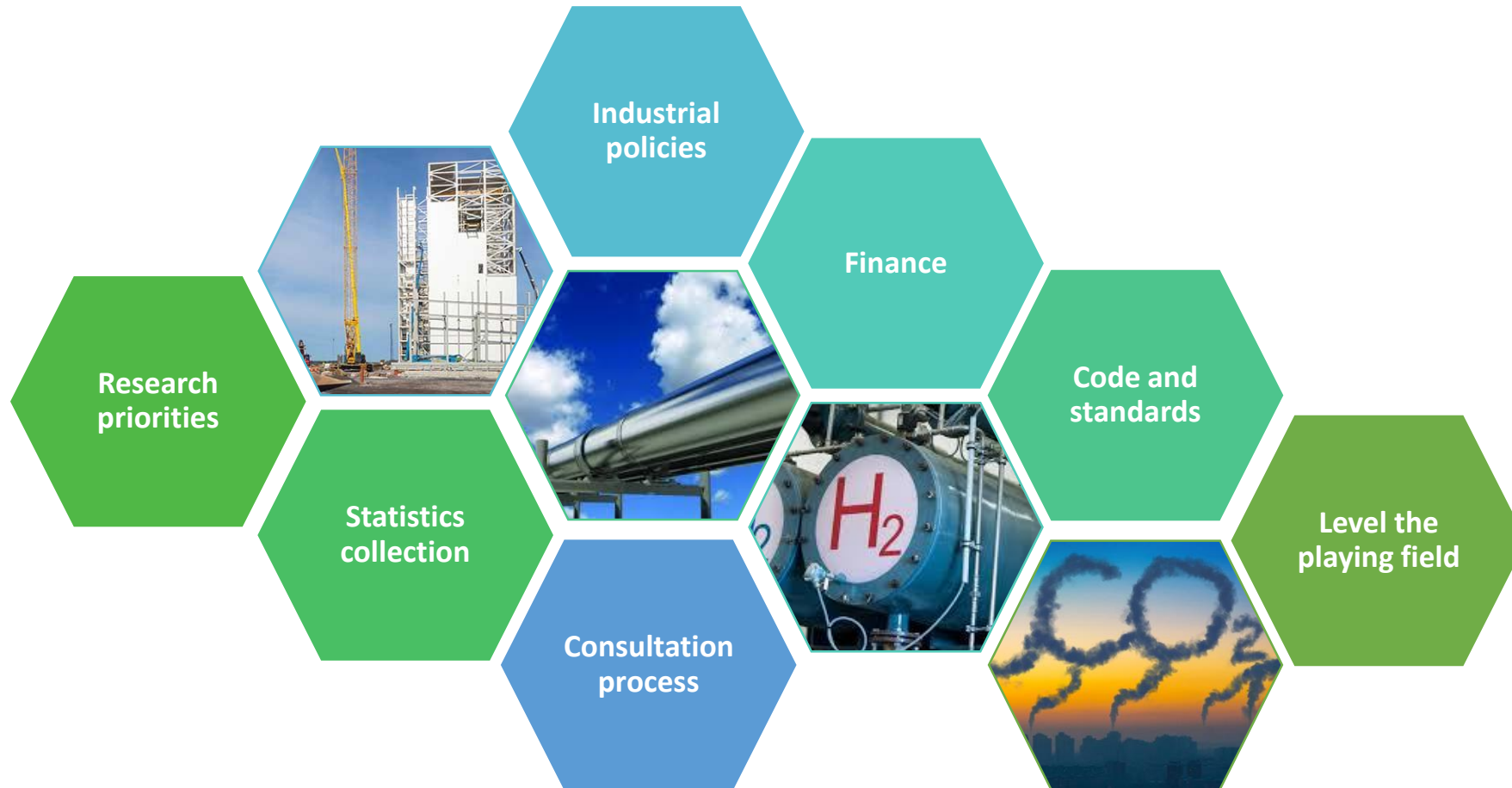


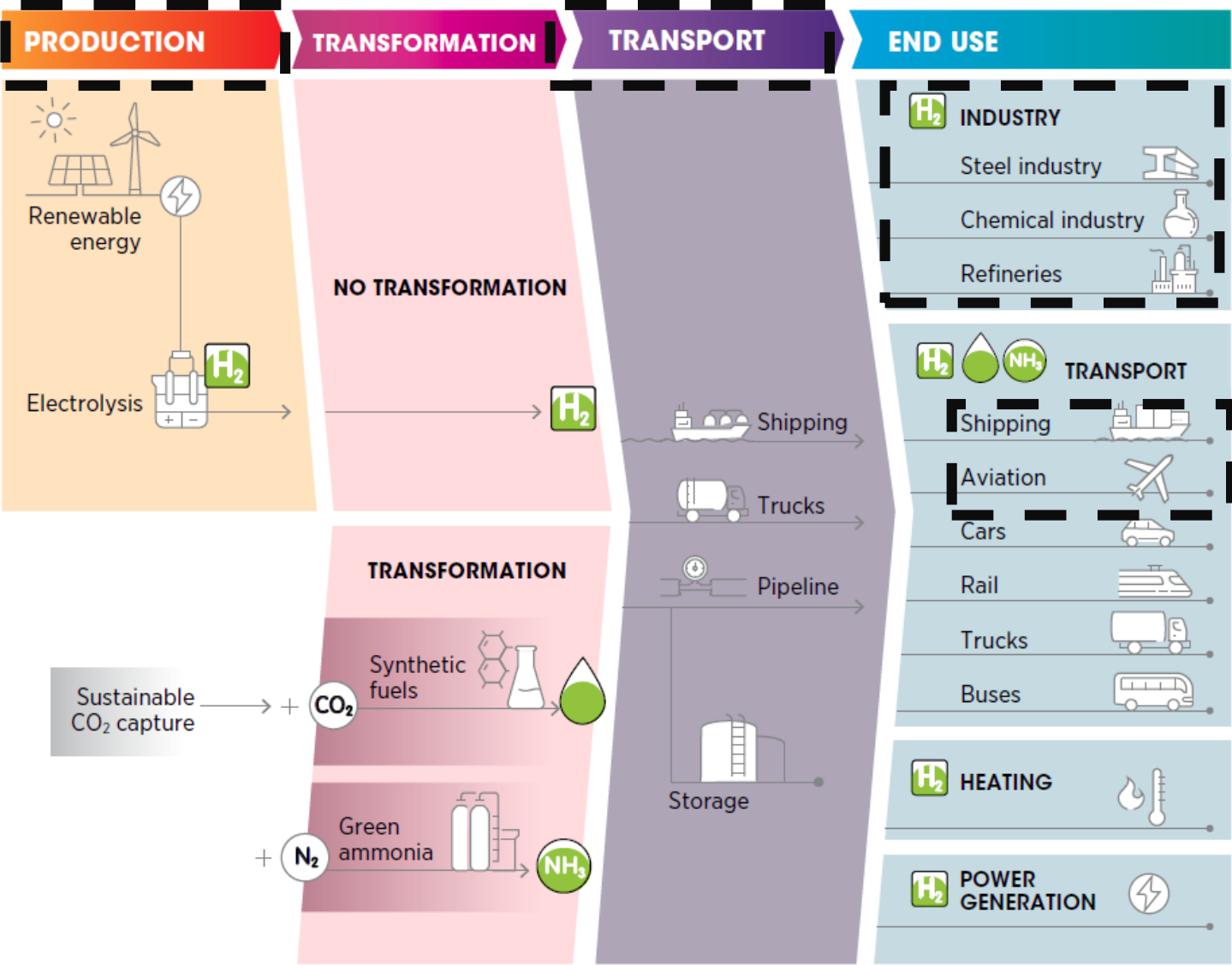
Policy pillar 3: Guarantees of origin



Guarantee of origin schemes should be based on life cycle GHG emissions, from upstream activities such as electricity generation to end uses

Policy pillar 4: Enabling policies







Q & A
10 min

NEXT WEBINAR

- **23 MARCH 2021 • 10:00 – 10:30 CET**
“Hydrogen series – Part 2: Green Hydrogen Cost Reduction: Scaling up Electrolysers to Meet the 1.5°C Climate Goal”

For more information and to register:

<https://irena.org/events/2020/Jun/IRENA-Insights>

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