

Plan de Acción
**Hidrógeno
Verde**



Energy Transition and Green Hydrogen in Chile

Building strong public policies in the energy sector

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October 11, 2023

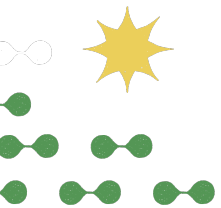
Mid-term consensus building is required

2050

2030

2023

We know **where we're headed...**
...we're building **how to get there**



Building State policies

The relevance of a long-term sectoral vision



Some updated goals



1st Energy Policy
Published in 2015



1st Update of Energy Policy
Published in 2022



Initial Agenda for a Second Stage of the Energy Transition
Published in April 2023

100%
Zero emission energy in the electrical sector by 2050

Energy Transition bill

70%
Zero emission fuels in non-electric energy end-uses by 2050

National GH2 Strategy and GH2 Action Plan

+80%
Renewables energies in the electrical sector by 2030

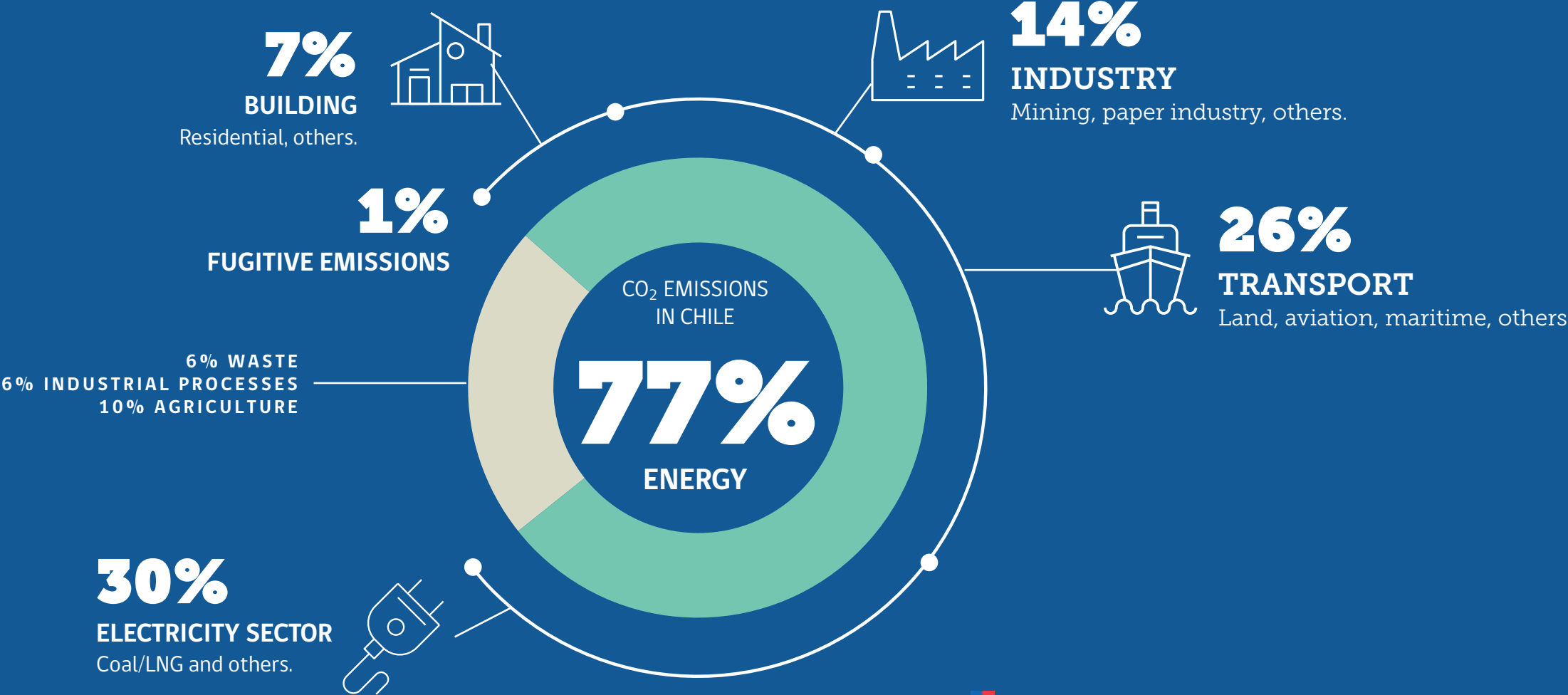
Renewables promotion bill

+2 GW
On storage projects by 2030

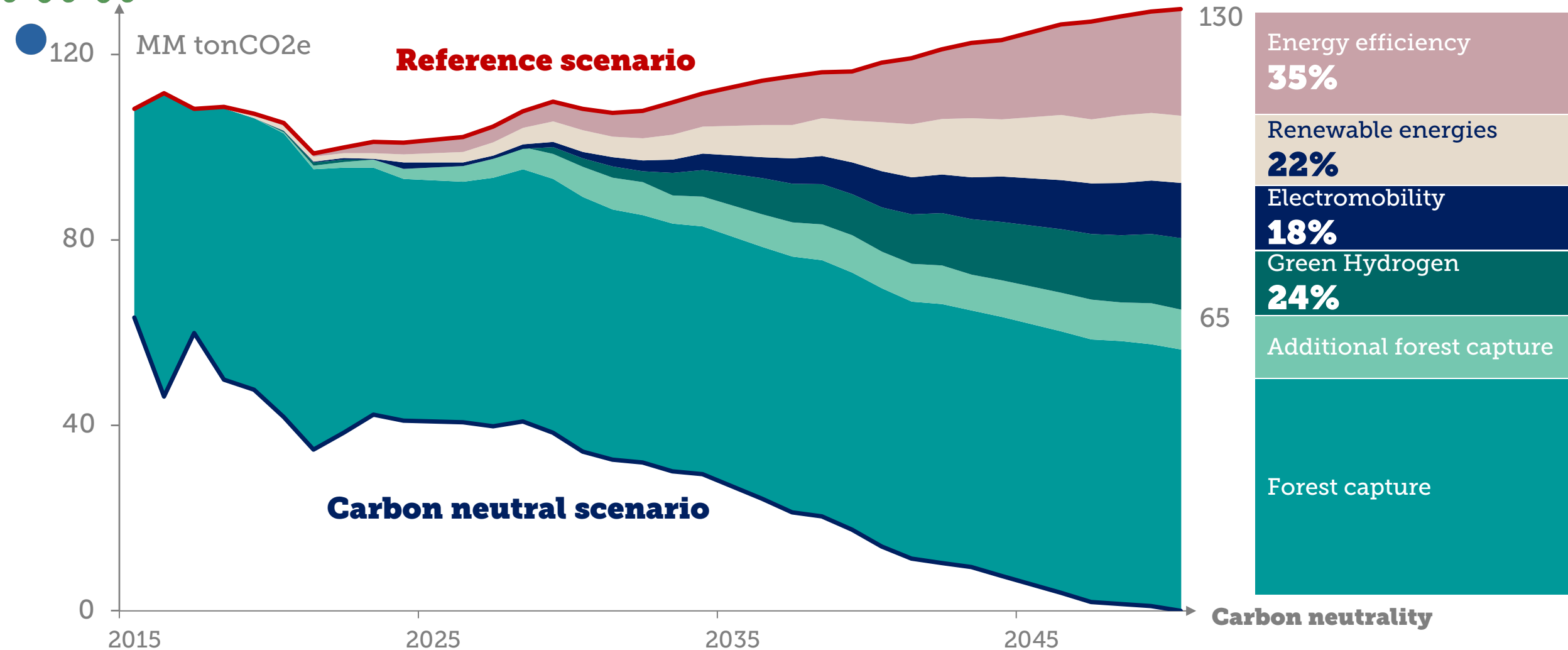
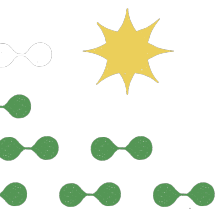
Energy Transition bill and associated regulation

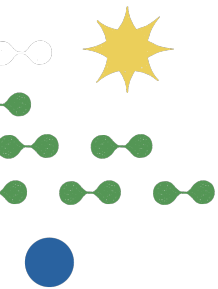
Reducing GHG emissions

A legal mandate to be a carbon neutral economy



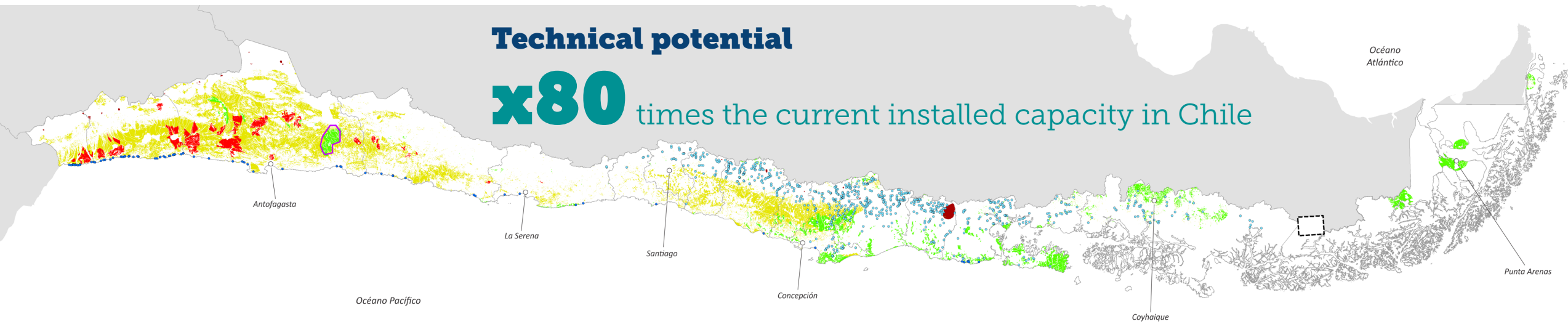
Carbon Neutrality Plan





Renewable energies

One of the best potentials in the world



Potenciales de Energías Renovables PELP 2023-2027

Leyenda

- Eólico
- Geotérmico
- Solar CSP
- Solar Fotovoltaico
- Potenciales Centrales Hidroeléctricas
- Potenciales Centrales de Bombeo Costeras
- Área de Reserva de Taltal



A sustainable development requires territorial harmony

An economy with clear policies and regulation for GH2

National Energy Policy, 2022

3 main goals:

- Climate action protagonists
- Energy for a better quality of life
- New productive activity for Chile

"Green hydrogen and its derivatives represent a historic opportunity to transform Chile into one of the main exporters of clean energy globally. This will enable the creation of jobs and encourage new investments that will contribute to local development and decentralization"

2030

Chile is an energy exporter in the form of green hydrogen, electric power or other energy sources

2050

70% — Zero-emission fuels in non-electric energy end-uses

National Green Hydrogen Strategy, 2020

2025

5 BUSD

Top destination for green hydrogen investment in Latin America

5 GW

Electrolysis capacity operating and under development

200 kton/year

Production in at least 2 hydrogen valleys in Chile

2030

2,5 BUSD/year

Leaders in export of green hydrogen and derivatives

25 GW

Leaders in production of green hydrogen via electrolysis

<1,5 USD/kg

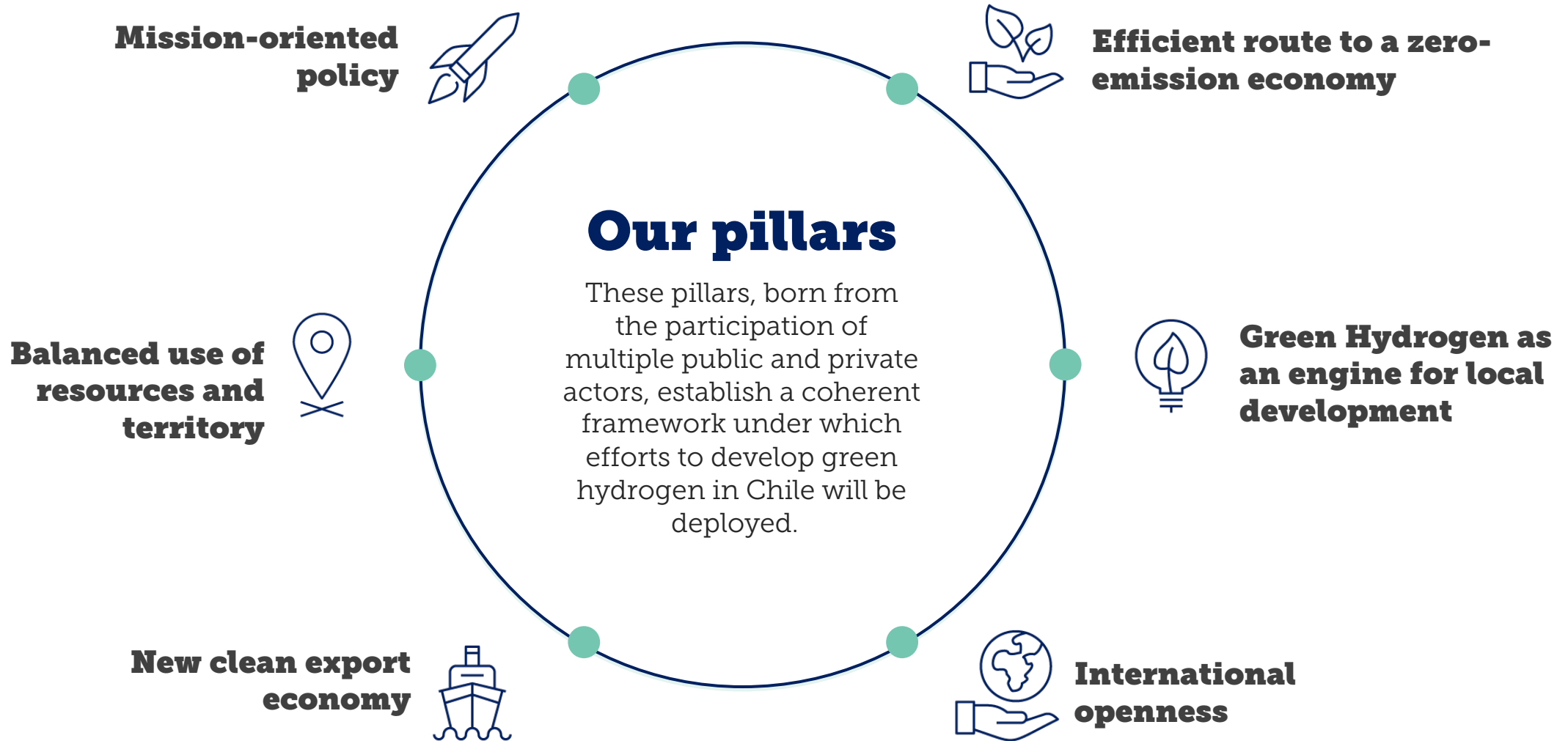
The cheapest hydrogen on the planet

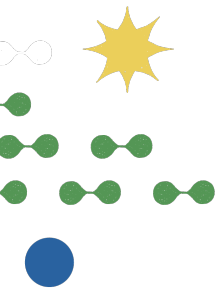
Green Hydrogen Action Plan 2023-2030



- Interministerial roundtables
- Advisor Council
- Citizen Workshops
- Strategic Committee

National GH2 Strategy





National GH2 Strategy and GH2 Action Plan



Action Plan 2020-2023

Current National GH2 Strategy

Action Plan 2023-2030



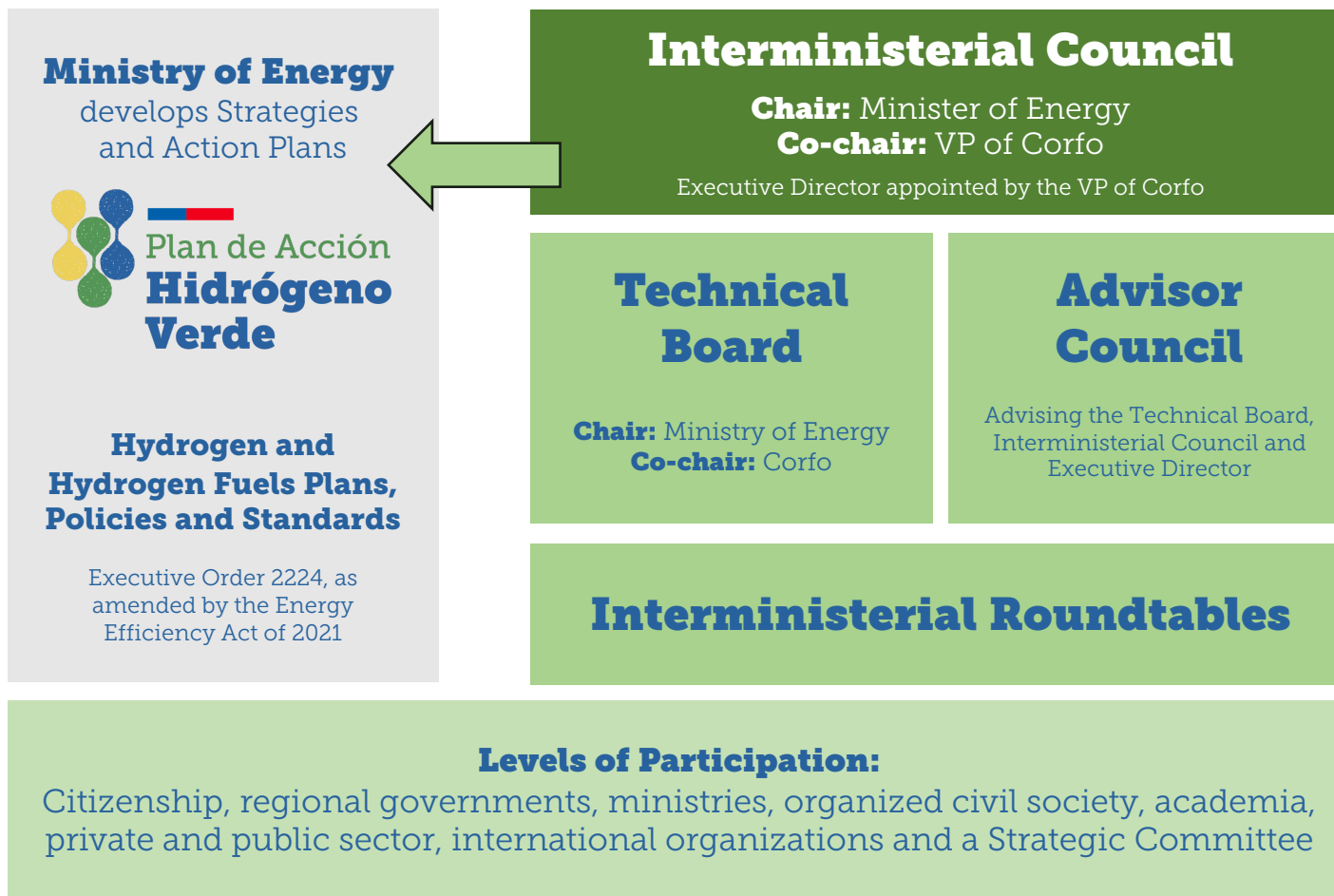
The frequent updating of the Strategy and its Action Plan will make it possible to adapt public policy to the evolution of markets, technologies and challenges.

A clear governance for H2



Green Hydrogen Industry Development Committee

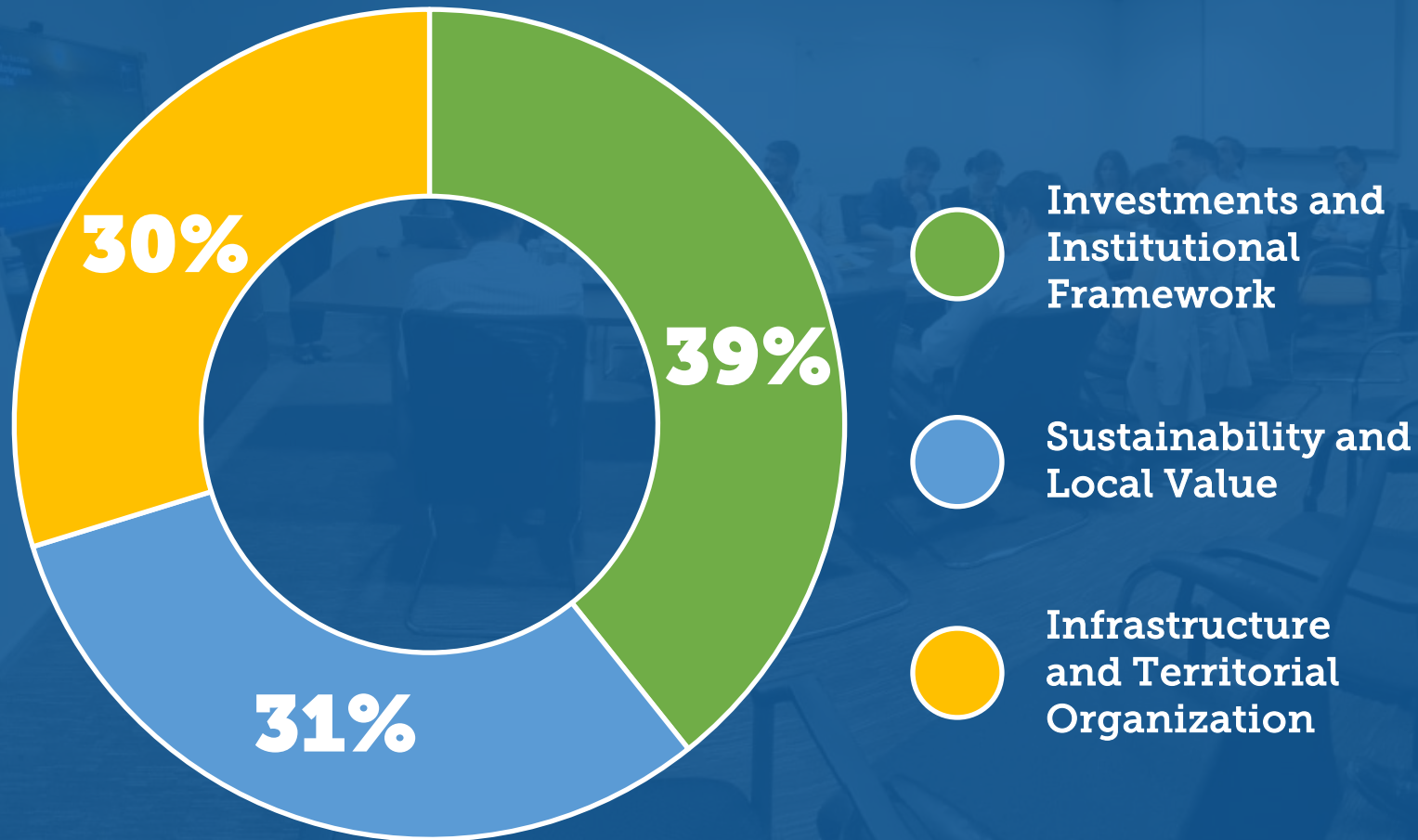
(Resolution Number 60, June 22, 2022)



GH2 Action Plan 2023-2030



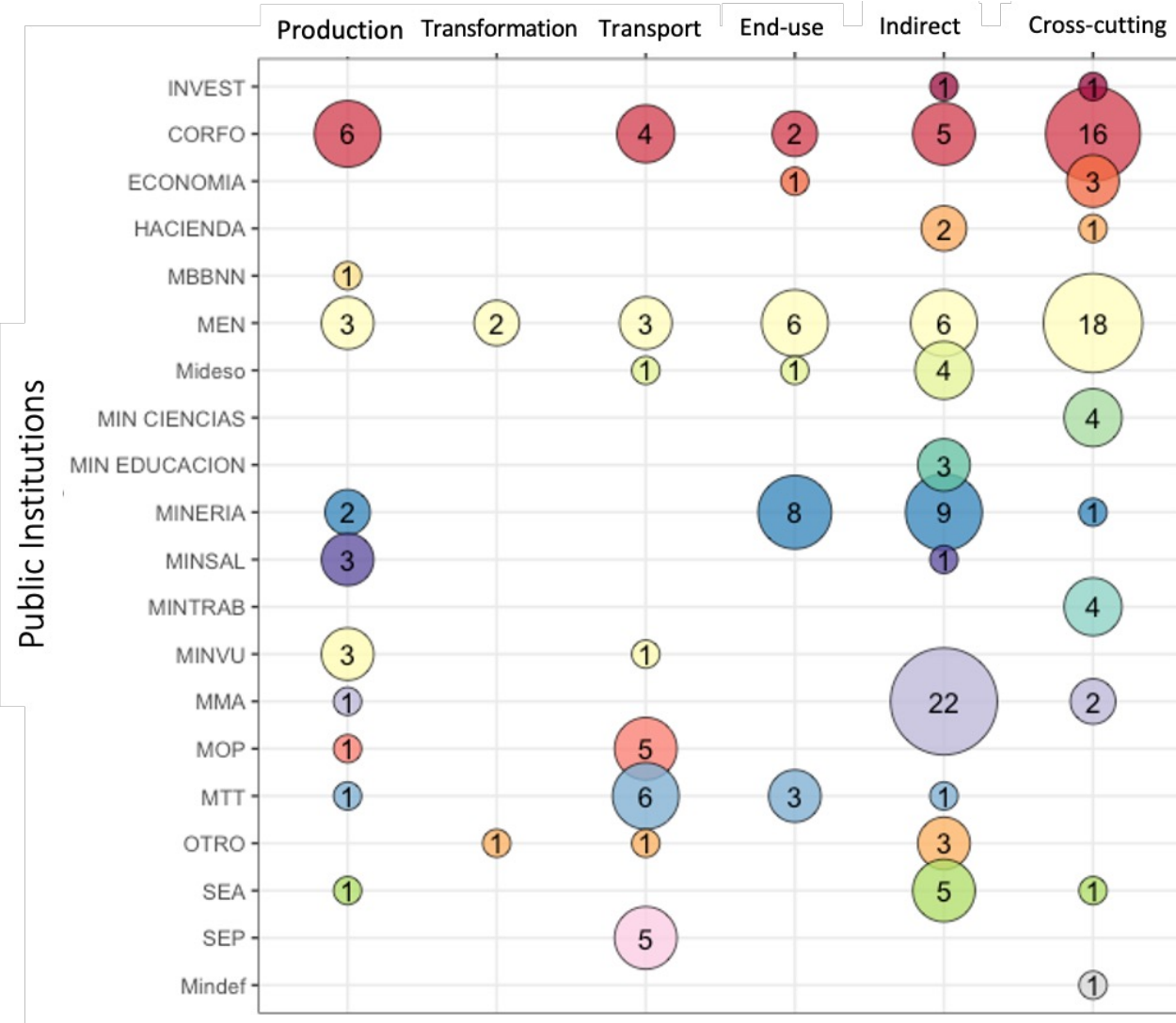
Interministerial roundtables



- ✓ 5 – 6 meetings held by each group
- ✓ Raised close to 200 sectoral initiatives
- ✓ Identified 51 critical issues
- ✓ Currently working bilaterally with counterparts

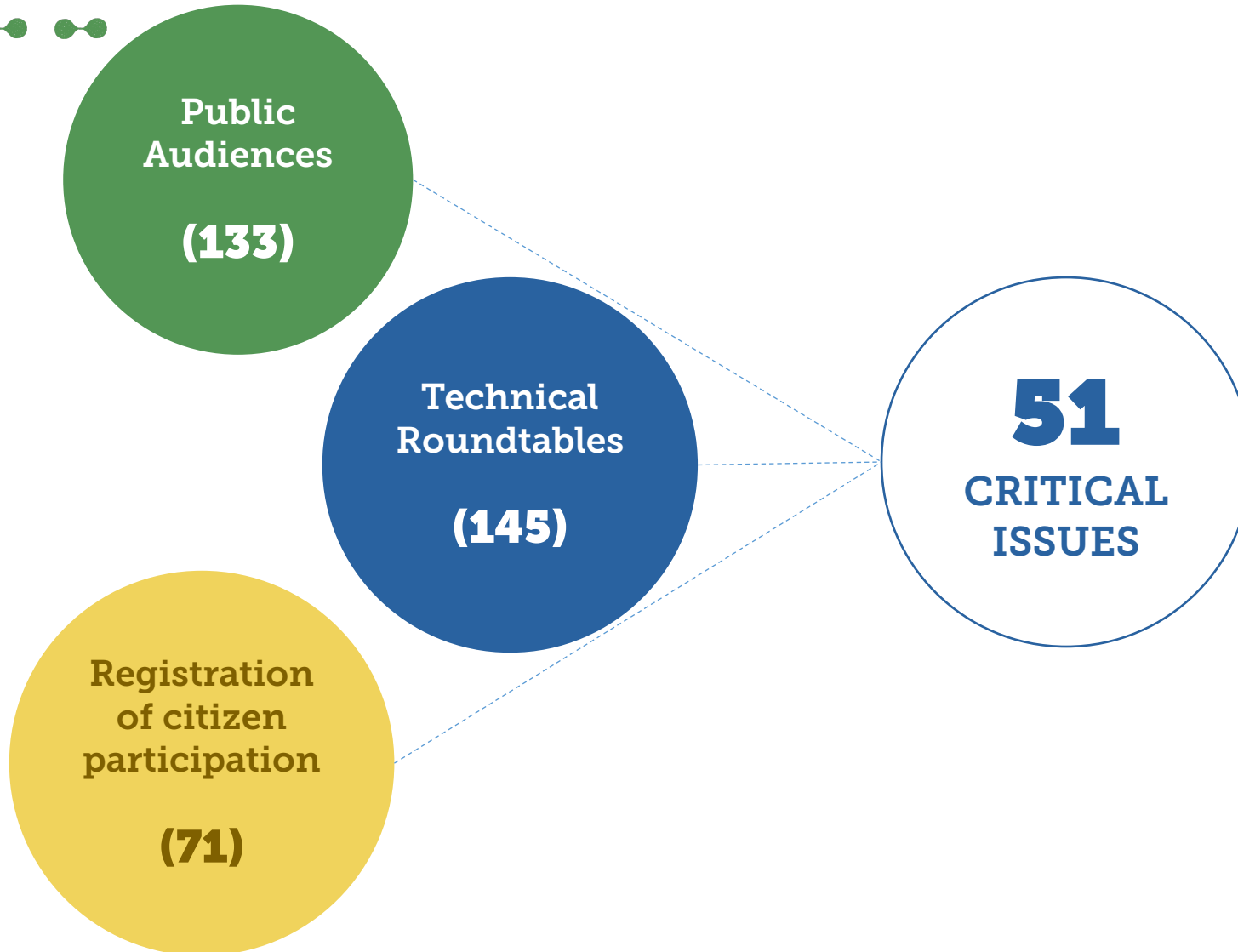
Activities by action line

GH2 Plan Structure



Initiatives / Inputs associated with GH2

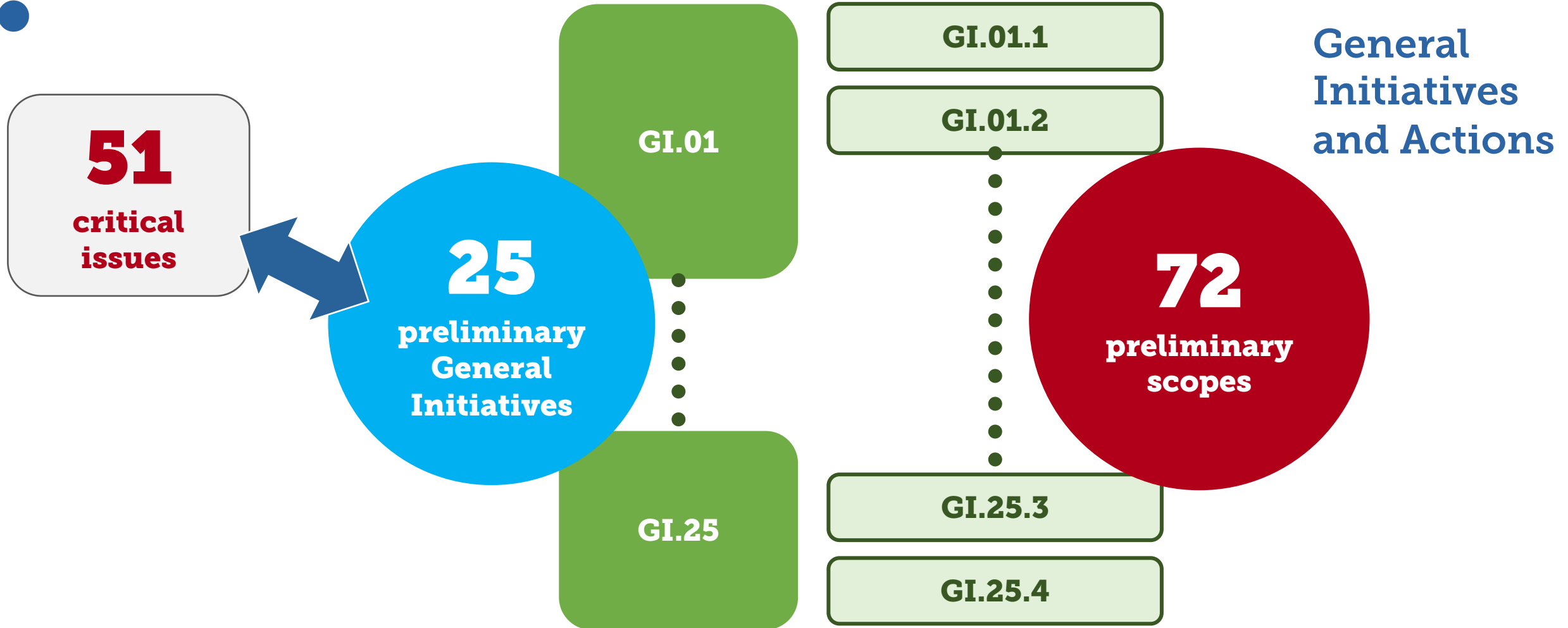
GH2 Plan Structure



Identification of Critical Issues

Relevant or essential issues to be considered in the GH2 Action Plan for the achievement of the Strategy's goals, arising from the **concern, challenges and opportunities** identified.

GH2 Plan Structure



Citizen workshops

Participation by regions / online



✓ **+ 2.300 registered**

✓ Workshops in **5 regions**:
Antofagasta, Valparaíso, Santiago,
Biobío and Magallanes

✓ 5 public audiences + 15 workshops

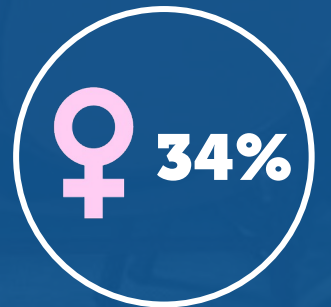
✓ A total of approximately
1.150 people participated

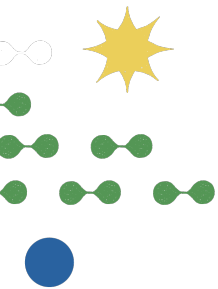
✓ **34%** private sector

28% public sector

20% civil society

18% academia.



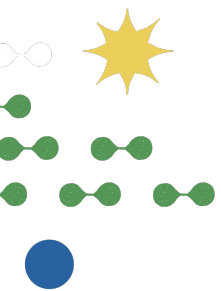


A GH2 Action Plan with a State Vision

STRATEGIC COMMITTEE

Strategic Committee aims to provide strategic and policy orientations, with broad consensus among participants, to constitute a high-level framework for the Green Hydrogen Action Plan and build a political discourse that communicates, domestically and globally, the hydrogen guidelines.





Strategic Committee

progress



Sustainability Dimension

- ✓ Industry is developing in a unique window of opportunity
- ✓ Pillar for domestic economic growth
- ✓ High international environmental standards
- ✓ Contribution to local development and quality of life improvement for local communities


International Dimension

- ✓ International openness
- ✓ Diversification of players
- ✓ Compliance with international trade rules
- ✓ Promotion of innovation and technology transfer
- ✓ Green corridors
- ✓ Certification with sustainability standards

3 other dimensions are being worked on

1. Economic
2. Human capital
3. Communities

The option Chile is taking



Our economy is signed several instruments that seek promoting cooperation for the development of the hydrogen industry.

To position ourselves internationally, we require investment in critical internal infrastructure, such as transmission lines, ports, roads, pipelines, connectivity, etc.

Leverage international collaboration for the economy's interests: attract investments, promote innovation and technology transfer, training, etc.

Chile must maintain its openness and investment diversification policy to avoid the vulnerability of concentration of actors.

33

FTA-network of trade agreements

9

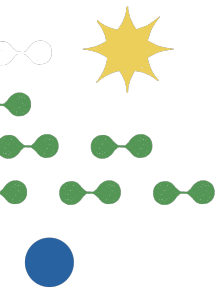
Joint statements and cooperation agreement

7

MoU

2

MoC



Time windows for action this decade

2023 - 2026

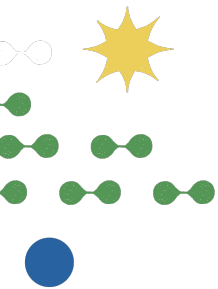
2026 - 2030

**Investment signals,
standards, ammonia
and off-takers**

First movers and shared risks

**Productive
chaining and
decarbonization**

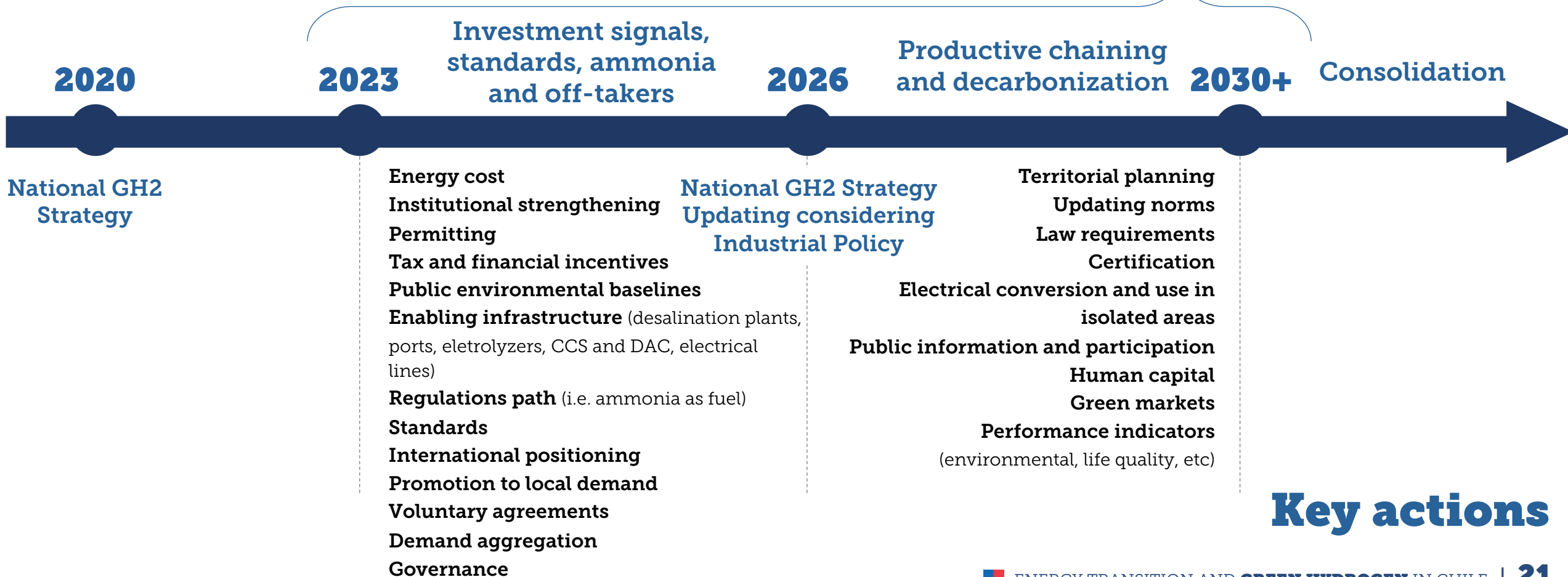
Towards green markets and
industry consolidation



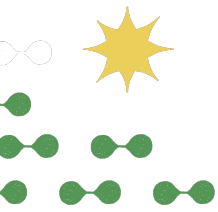
Time windows for action this decade



GH2 Action Plan
2023-2030

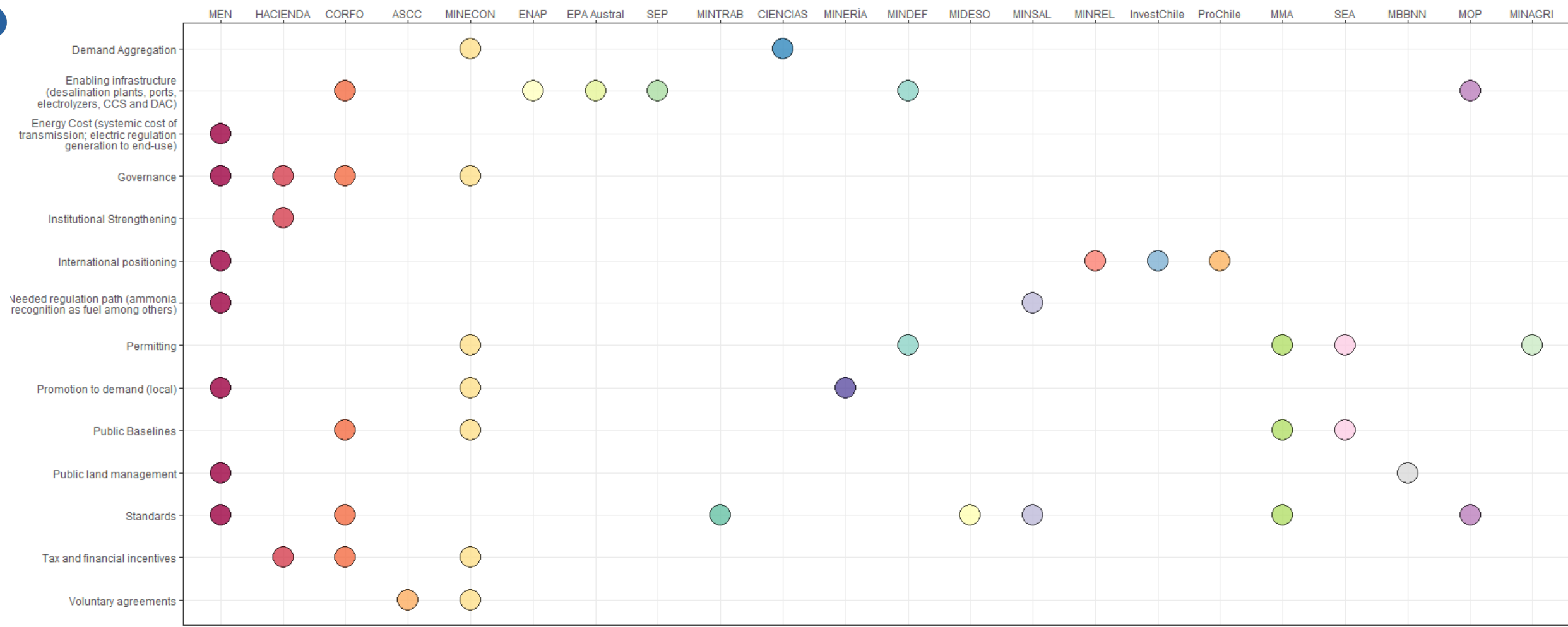


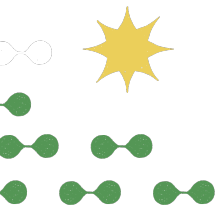
Key actions



1st time window

Investment signals, standards, ammonia and off-takers



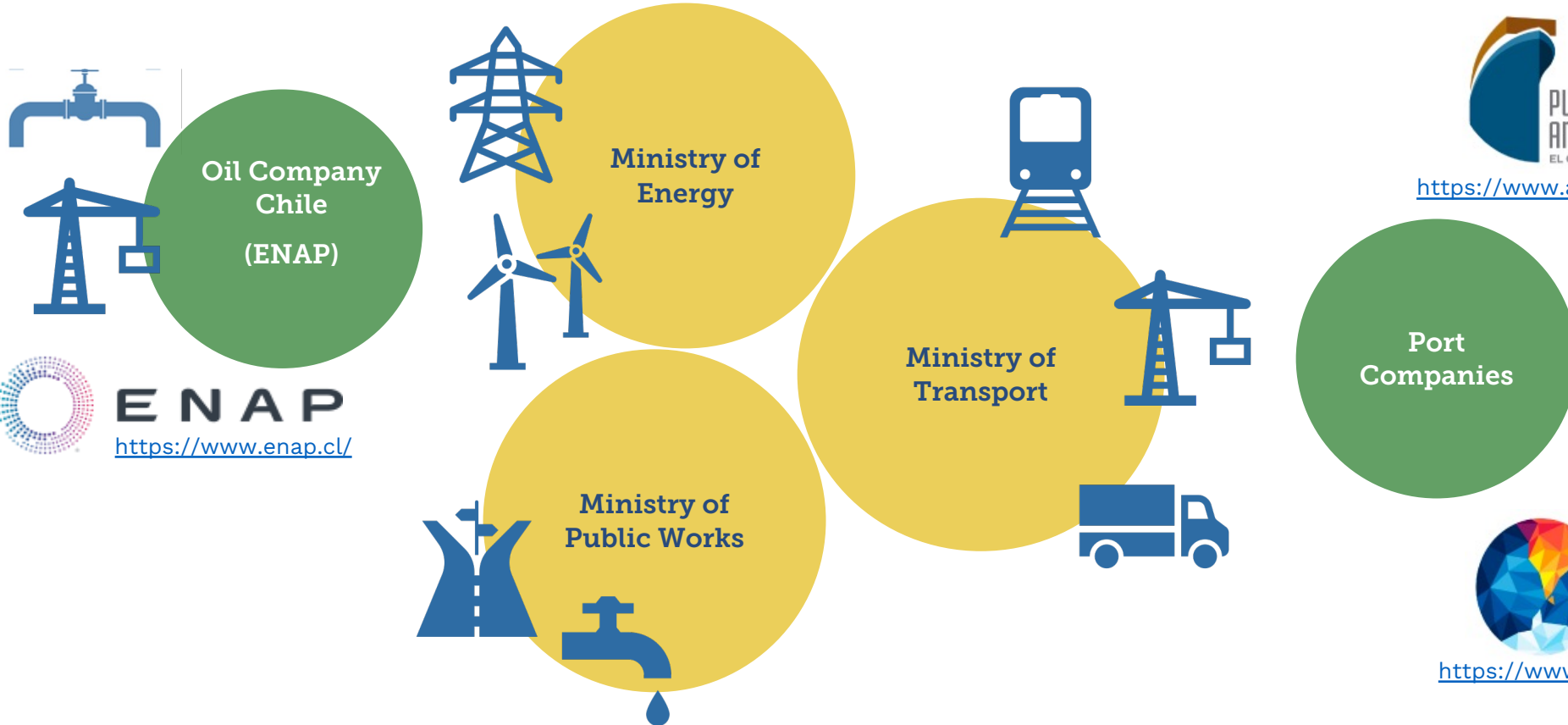


2nd time window

Productive chaining and decarbonization



Enabler and shared infrastructure



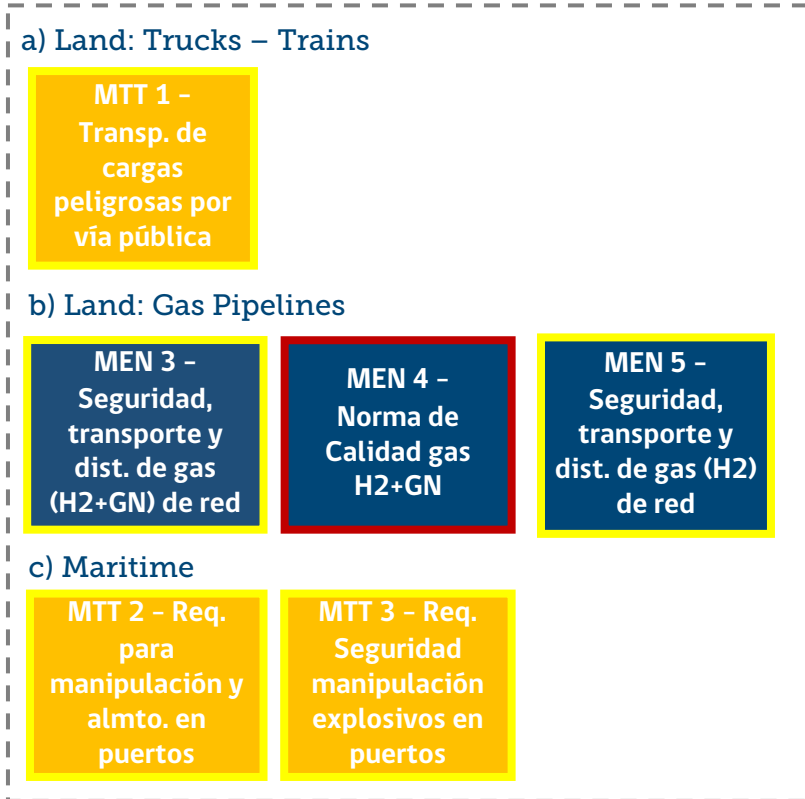
Supporting infrastructure:
Ports, roads, transmission lines, pipelines, etc.

Regulation to develop

1. H2 Facilities Production and Storage



2. H2 Transport Land and Maritime



3. H2 Transversals Various



■ Min. Energy ■ Min. Transport ■ Min. Housing ■ Min. Health ■ Min. Mining

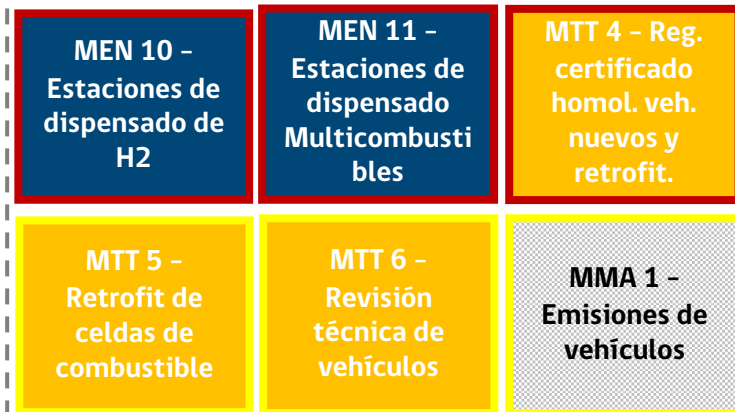
□ Modification to existing regulation □ Development of new regulation

Regulation to develop

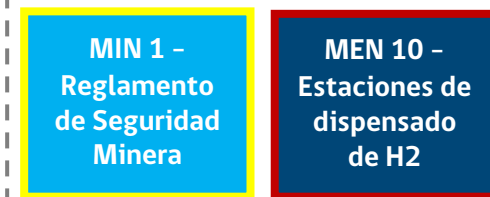
4. H2 Application Uses

4.1 Transport

a) Public Road

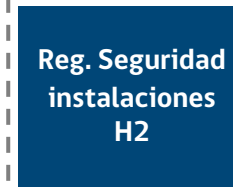


b) Off Road: Industrial, mining, ports, airports



4.2 Thermal Power Generation

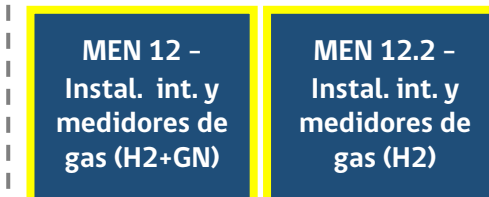
a) Industrial



b) Minero



c) Residential-Commercial

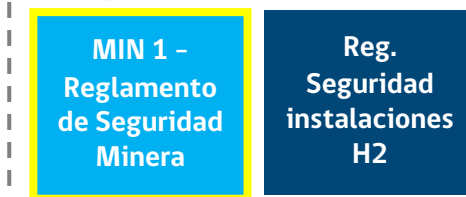


4.3 Electric Power Generation

Industrial



Minig

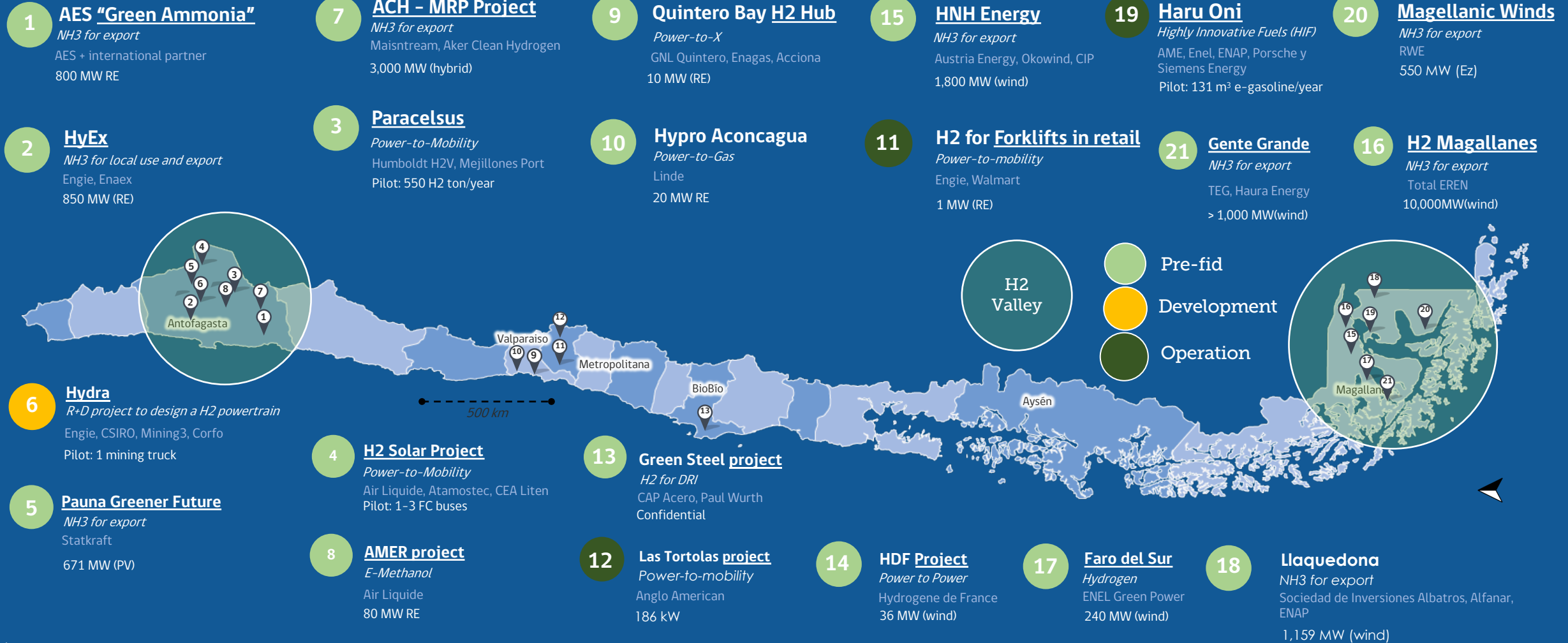


Electrical System



■ Min. Energy
 ■ Min. Transport
 ■ Min. Housing
 ■ Min. Health
 ■ Min. Mining
 Modification to existing regulation
 Development of new regulation

Projects under development



Note:
Project's location only referential Developers highlighted in turquoise



Next steps

October 2023

- First version of GH2 Action Plan 2023-2030
(for internal reviewing)

November 2023

- Preliminary Version of GH2 Action Plan 2023-2030
(for Public Consultancy)

December 2023

- Public Consultancy Period of Preliminary version of GH2 Action Plan 2023-2030
- Closing Audiences of GH2 Action Plan 2023-2030

1st Quarter 2024

- Final Version of GH2 and start of continuous follow-up process of GH2 Action Plan 2023-2030

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