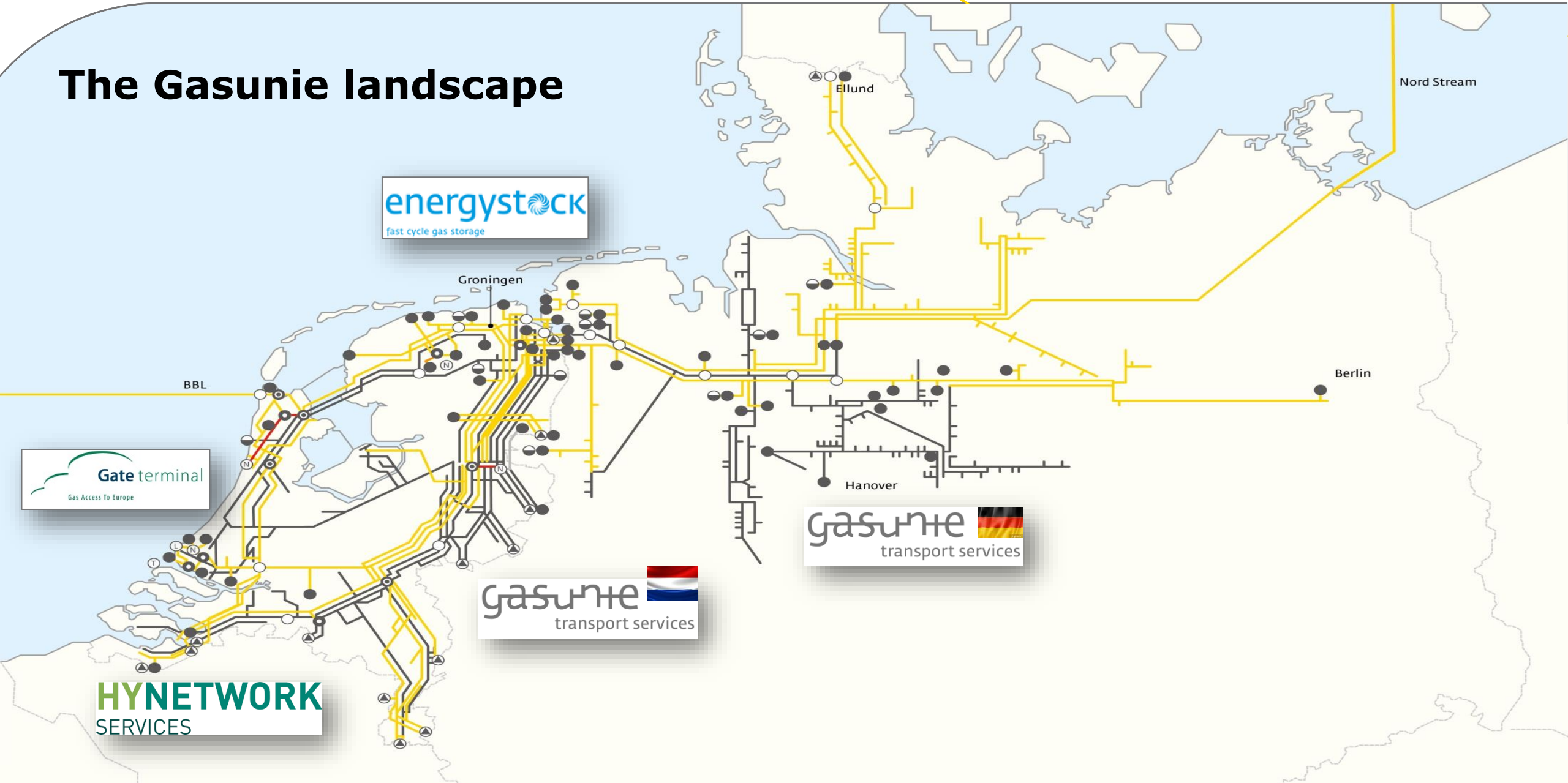
gasunie
crossing borders in energy

Brussels, 21 September 2021

Gasunie view on H2 market design and regulation

The Gasunie landscape



How to ensure a fit-for-purpose framework (1/2)

A gradual approach is needed:

- The development of the clean hydrogen market and infrastructure is still in its infancy and its future evolution throughout Europe is still uncertain
- It's current market development calls for a more dynamic set of rules that can be adapted in tune with the pace of development of hydrogen in Europe **(include a timely (2026) review of the proposed regulation in line with market development as input for further legislative measures**
- Make a **clear distinction between the different market stages** for the hydrogen market and give infrastructure operators enough possibilities during the experimental
- Determine the **minimum requirements to enable initial cross-border development** (i.e. hydrogen quality, taxonomy and access rules) from the onset to ensure first cross-border flows.
- National and regional developments may occur at different speeds: **regional initiatives** can lead the way (**such as the Gas Regional Initiatives** have done previously)
- Apply a regulatory framework comparable with the natural gas market when there is a function market (cross border, many buyers, many sellers and multiple supply routes).

How to ensure a fit-for-purpose framework (2/2)

- **Transport – Designated task for a (unbundled) hydrogen TSO.**
  - Start with gradual regulatory approach, such as initial guidelines to provide flexibility and room for commercial innovation to get the market going.
  - Increasingly a (regionally) regulated activity in accordance with market maturity.

- **Storage – keep options open in EU – give flexibility at MS to chose n/rTPA**
  - Start with flexible approach; MS need to get it going but will evolve fast into a market activity. The storage market see competition like in the current natural gas storage market.
  - In NL alone, capacity corresponding to between 60 and 300 caverns are expected to be needed. This implies multiple owners and operators will be active in an open and competitive market.
  - Owners of gas storages should be allowed to own and operate hydrogen storage.

- **Import** – **keep options open in EU – give flexibility at MS to chose n/rTPA**
  - LNG import terminals will develop in the coming decade. If there is any need for regulation, flexibility must be given to MS to take into account differences by region and allow for the most suitable regime (nTPA/rTPA) based on sufficient competitive pressure and absence of fundamental barriers to entry.

Gasunie has been asked by the government to develop the H2 network in the Netherlands

Government publications

Hyway27

"We recommend that the decision in principle be taken to use part of the existing natural gas networks for the transport of hydrogen. In order to achieve the ambitions for 2030, it is necessary to start the decision-making process now"

HyWay 27: hydrogen transport via the existing natural gas network, June 2021

Cabinet Reaction

"I therefore intend to ask Gasunie, as a state-owned company, to take charge of the development of the transport network for hydrogen and to release natural gas pipelines to be available for reuse."

D. Yeşilgöz Zegerius, State Secretary for Economic Affairs and Climate, June 2021

A **bandwidth model** for hydrogen transport tariffs ensures acceptable tariffs that stimulate the hydrogen market and with which acceptable risks are shared amongst parties

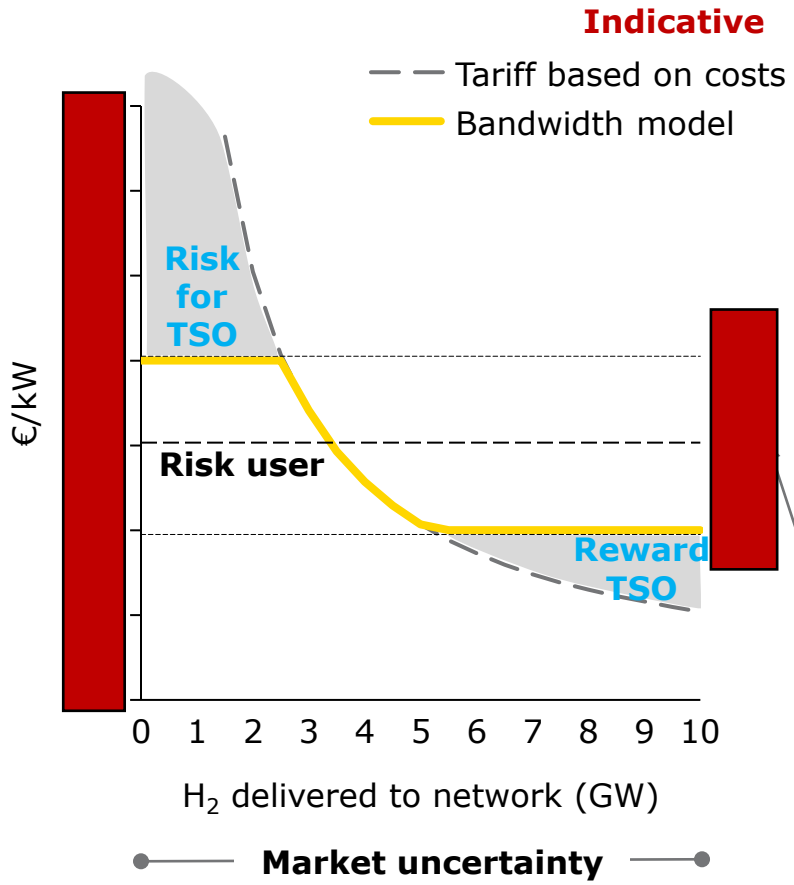
Design principles

Acceptable risks which are **shared** amongst parties

Tariff structure that **stimulates the development** of the hydrogen market

Acceptable tariffs that are close to the [redacted] benchmark of current gas transport tariffs

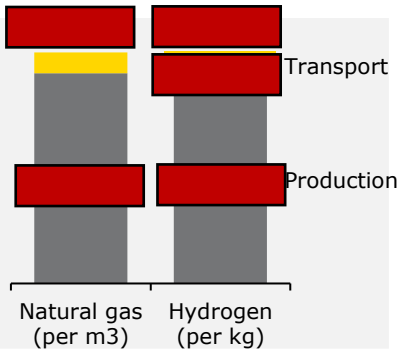
Proposed tariff design (€/kW)



- **Risks are shared** and capped amongst government, users, Gasunie
- **Reward** for TSO can be returned as dividend to government
- **Cross-subsidy** is avoided with asset-transaction at RAB value

- **Costs for the launching customers**, when little hydrogen is transported via the network, are **capped** to the upper side of the bandwidth [redacted]
- In this way the **risk for first users is capped** and the development of the hydrogen market is stimulated

[redacted] For hydrogen transport is [redacted] **the expected hydrogen price** in a developed market, similar to natural gas



Note: 1) Highway27
Source: Highway27; Notitie EZK: One-pager transportnet; Deloitte

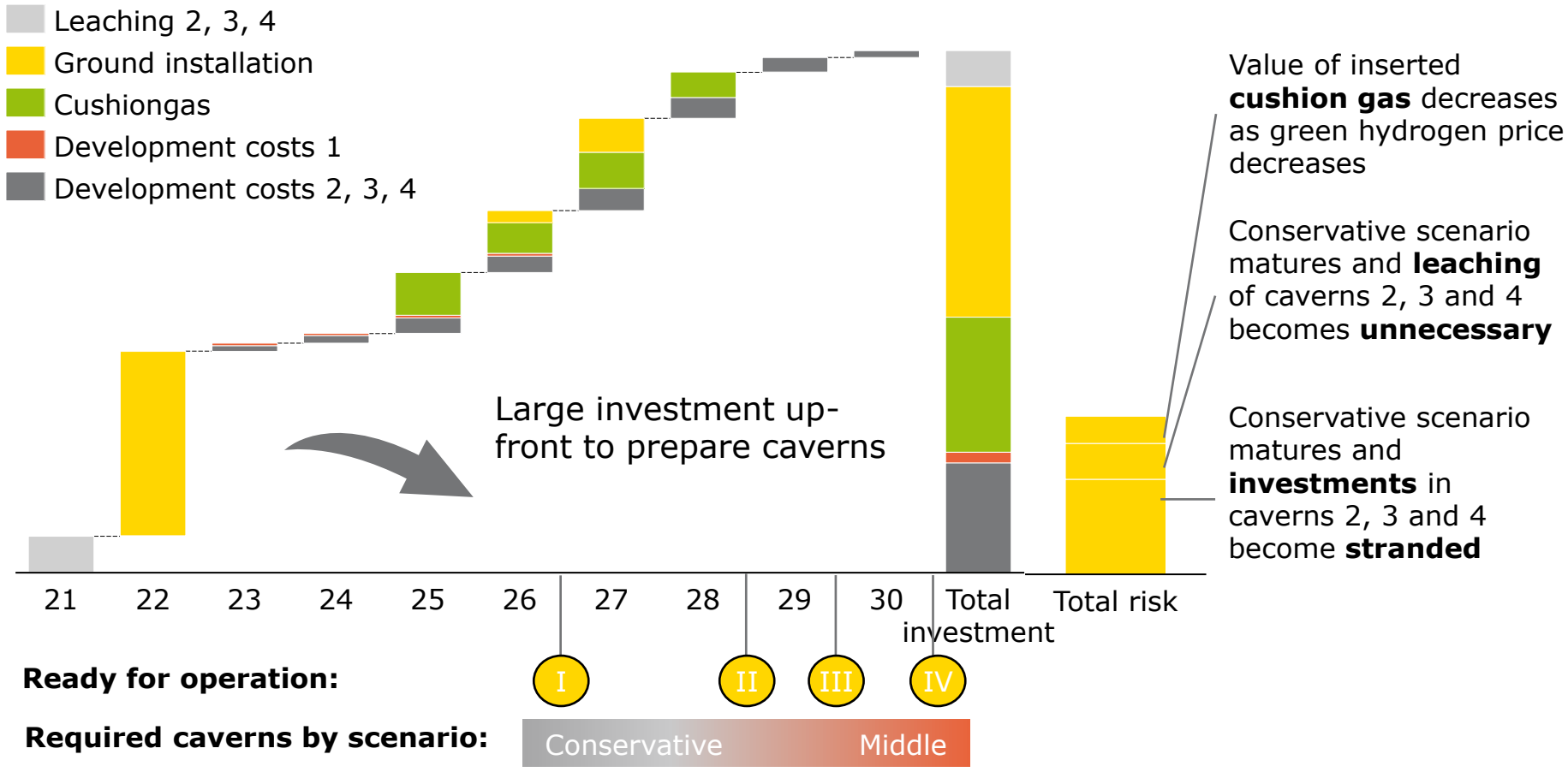
Bandwidth can be chosen in such a way that **risk/reward** is exactly equal

Given that the development of storage assets requires a pre-investment, this justifies government support which will come with initial 'conditions' for access and reasonable returns

Characteristics of storage

Planning horizon for storage is long, requiring investment before the market matures

In NL only 60-300 salt caverns needed. Storage market is not (and will not be) a natural monopoly.



Source: Gasunie