

Investment plan 2022: process



Investment Plan 2022: objective

- Article 7a of the Gas Act states that network operators are obliged to write an investment plan (IP). With the IP, network operators offer an overview including justification of their investments in the short and long term.
- The Investment Plan 2022 (hereafter: IP2022) will be the second investment plan of GTS
- The IP is assessed by the Ministry of Economic Affairs and the ACM. Approval of the IP therefore means approval of the described investments and an obligation for GTS to realise them.

Investment Plan 2022: scope

- The scope of the IP2022 will be the period 2022-2031
- The IP contains, legally, the following three elements:
 - Developments in the energy market → scenarios up to 2031
 - Bottleneck analysis of the GTS transport network
 - Description of investments in the transport network (Looking back over the past 2 years; Looking 5 and 10 years ahead)
- GTS has an obligation to report via an addendum in the event of a significant change.
- The investments only cover CAPEX-projects
- This investment plan is valid for a period of 2 years, after which the next IP comes into effect

Investment Plan 2022: planning

- Deadline for submission of the draft-IP to ACM and the Minister is 1 Jan 2022.
- Approval:
 - ACM: could GTS reasonably have come to the draft investment plan and are the investments necessary?
 - EZK: has GTS sufficiently accounted for developments in the energy market?
- Milestones:
 - 25 Nov 2020: information session process and scenarios
 - 1 Dec 2020: scenario freeze
 - Aug/Sep 2021: information session investments
 - 1 Nov 2021: start market consultation period (duration 1 month)
 - 1 Jan 2022: submit final draft IP2022
 - 1 Jan – 1 Apr 2022: assessment by ACM & EZK
 - 1 Apr 2022: publish final IP2022

Agenda

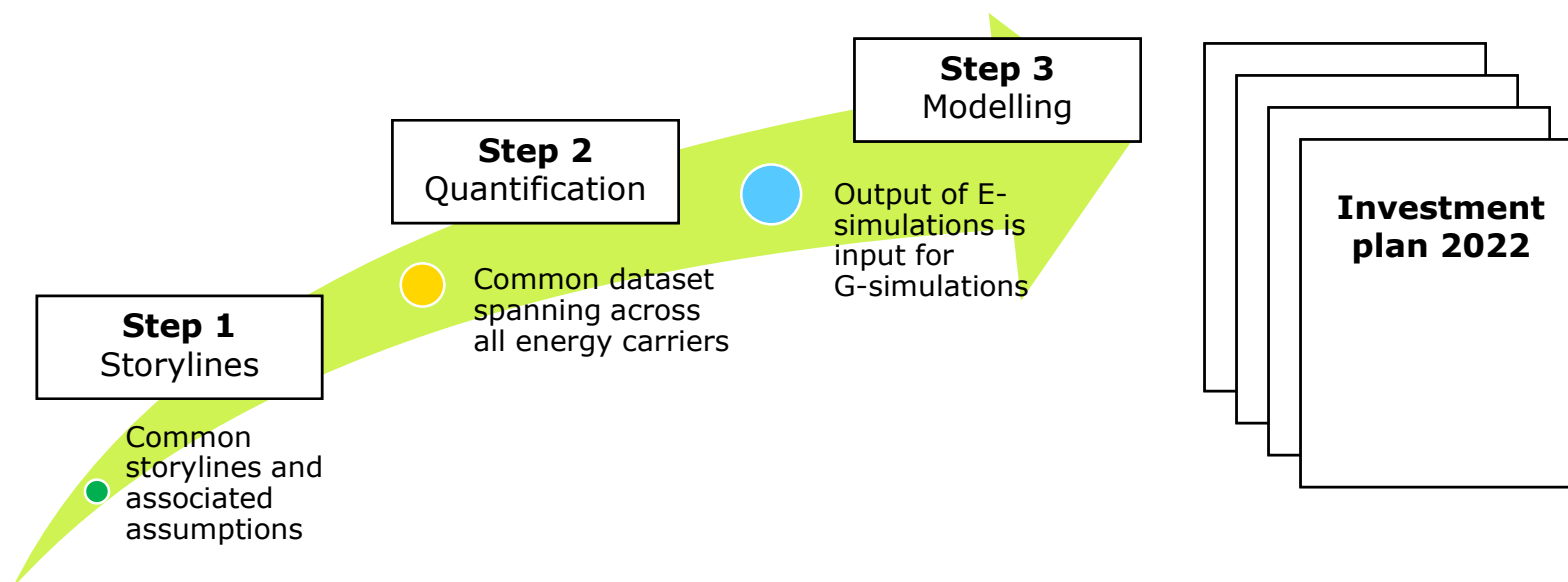
- 09:30 – 09:40 Opening
- 09:40 – 10:25 Planning assumptions Groningen advise
- 10:25 – 10:40 Investment plan 2022: process
- 10:40 – 10:55 Coffee break
- 10:55 – 11:45 Investment plan 2022: scenarios
- 11:45 – 12:00 Future Dutch gas market

Scenarios for the Investment Plan 2022

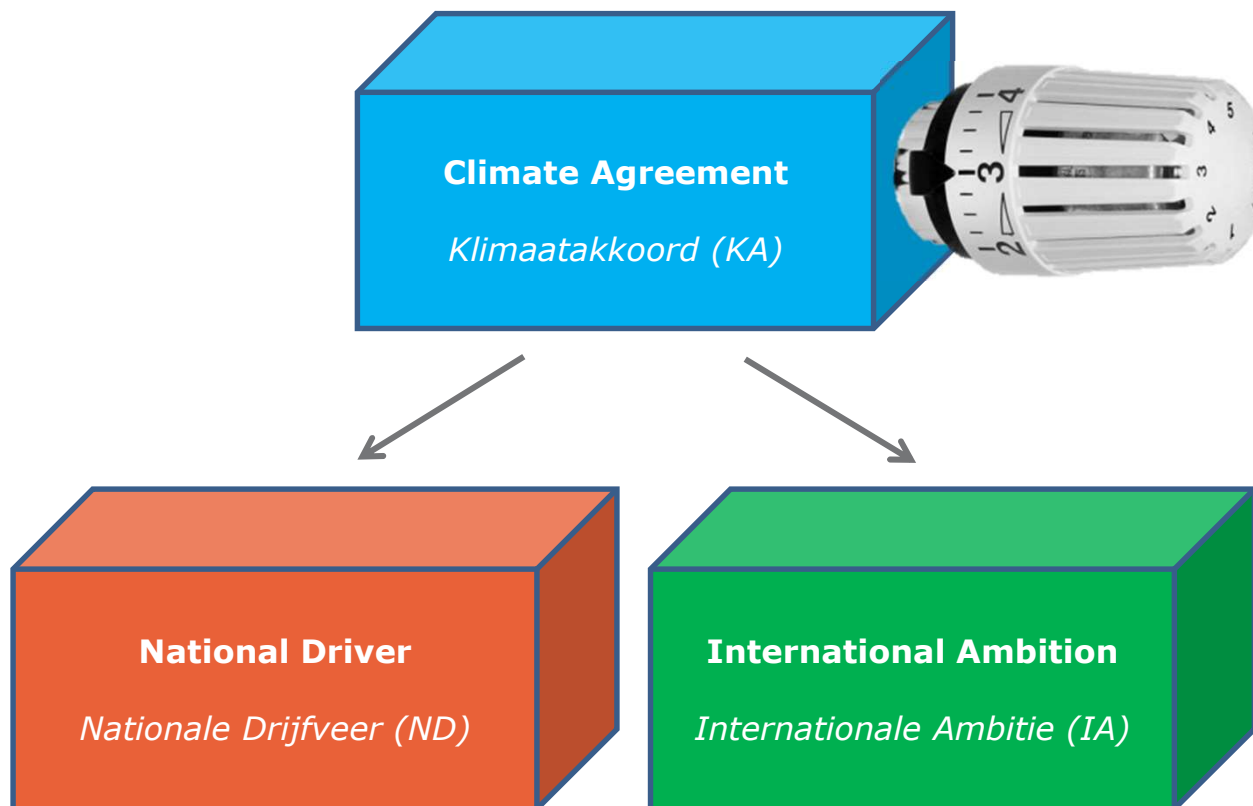


Gasunie worked together with the other Dutch network operators to develop the scenarios for the Investment Plan (IP) 2022.

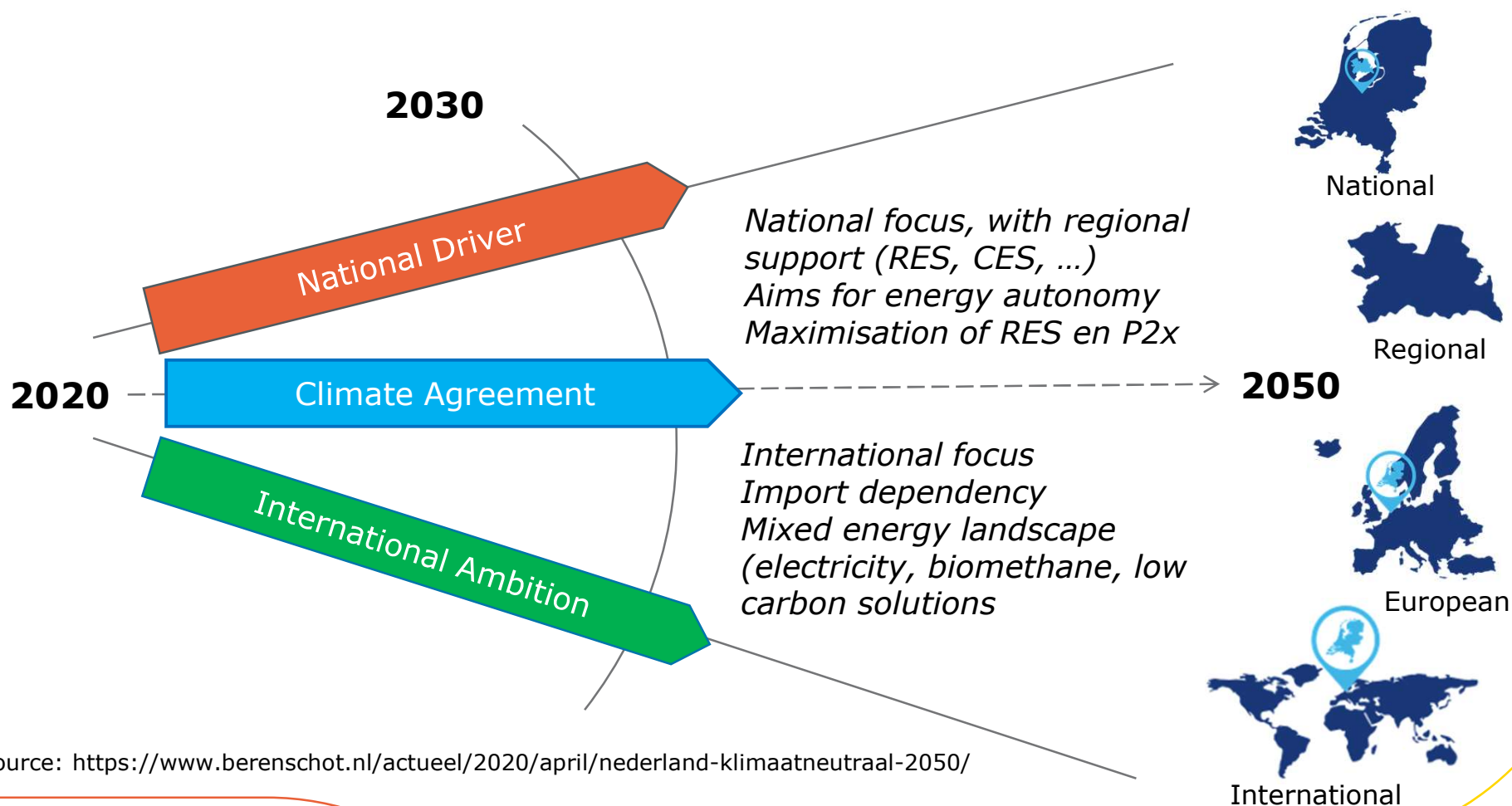
- Update of the IP 2020 scenarios, developed together with TenneT and DSOs.
- One set of scenarios to test the infrastructures for electricity and gas.
- Goal: “reasonable extreme” scenarios with a quantification up to 2031.
- **Purpose of today: presentation of draft scenarios (almost final)**



The Dutch climate agreement was taken as a reference scenario. Two different scenario pathways have been developed to consider relevant uncertainties.



Scenarios are pathways towards the climate neutral scenarios for 2050 (Infrastructure Outlook 2030-2050, Netbeheer Nederland)*



*Source: <https://www.berenschot.nl/actueel/2020/april/nederland-klimaatneutraal-2050/>

The three scenario storylines.

Climate Agreement

Klimaataakkoord (KA)



- CO₂ target probably not completely reached
- Increase in solar PV and wind generation
- Mix of technologies for domestic heating
- Uptake of EVs and FCEVs
- Limited P2H in industry
- 2 BCM biomethane (63 PJ)
- 3,5 GW electrolysis
- 7 MT of CCS

National Driver

Nationale Drijfveer (ND)



- CO₂ reduction >50%
- Aims for energy autonomy in the long run
- Even more solar PV and wind (aligned with RES)
- High circularity and energy efficiency
- Focus on all-electric
- More EVs, fewer FCEVs
- More sector coupling through P2g and P2h
- Limited CCS

International Ambition

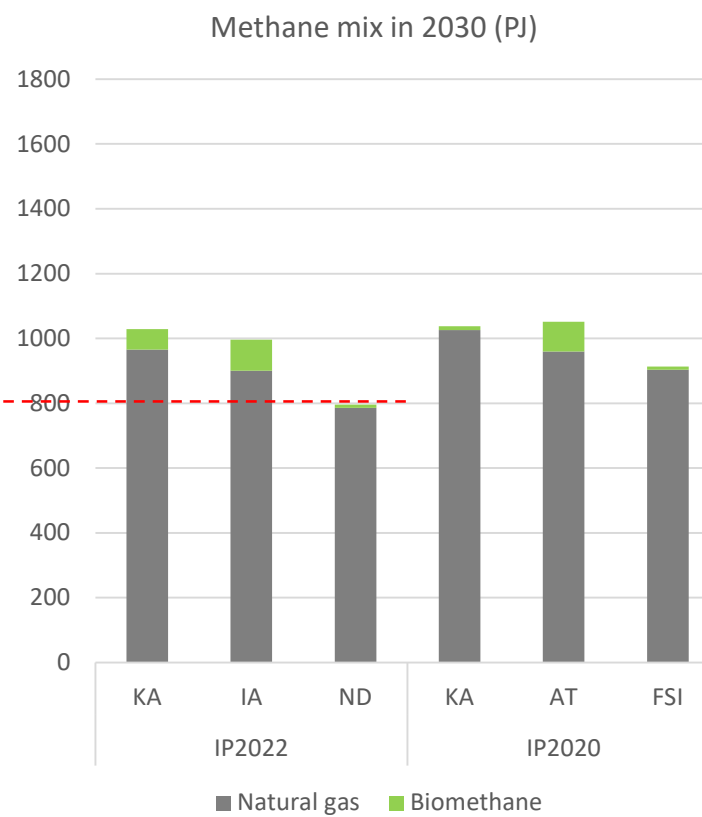
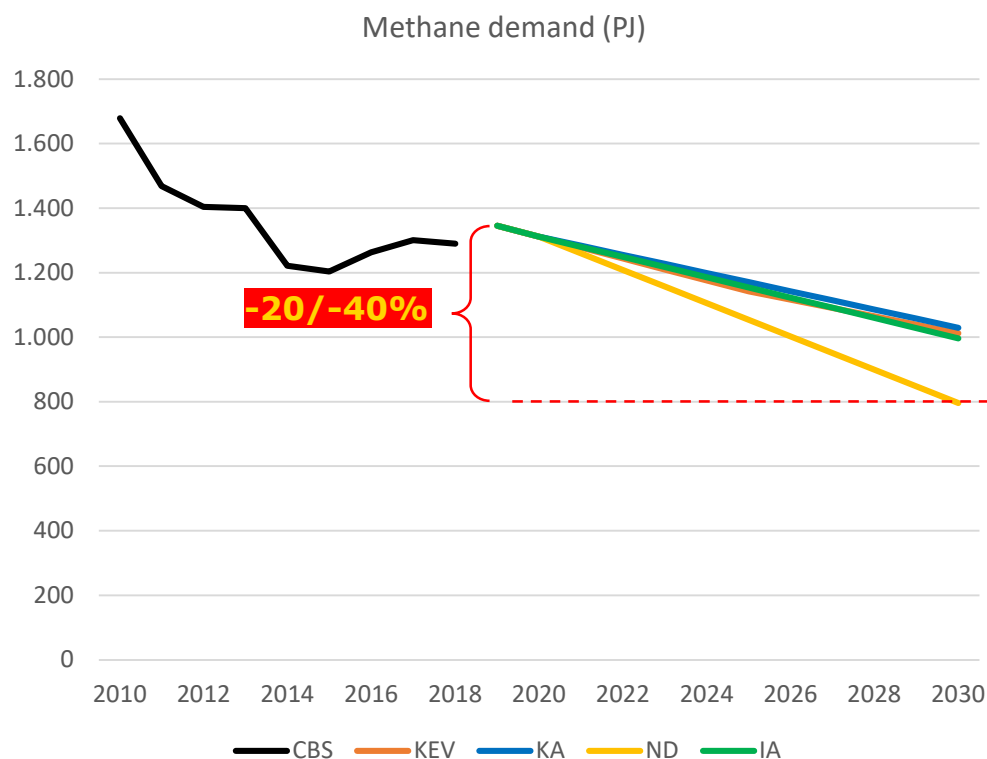
Internationale Ambitie (IA)



- CO₂ reduction >50%
- Import dependency
- Less solar PV, more biomethane
- Growth of industry, CHP remains
- Focus on hybrid heatpumps
- Fewer EVs, gas application in heavy transport
- High uptake of H₂ (mainly blue SMR and import)
- More CCS (10 MT)

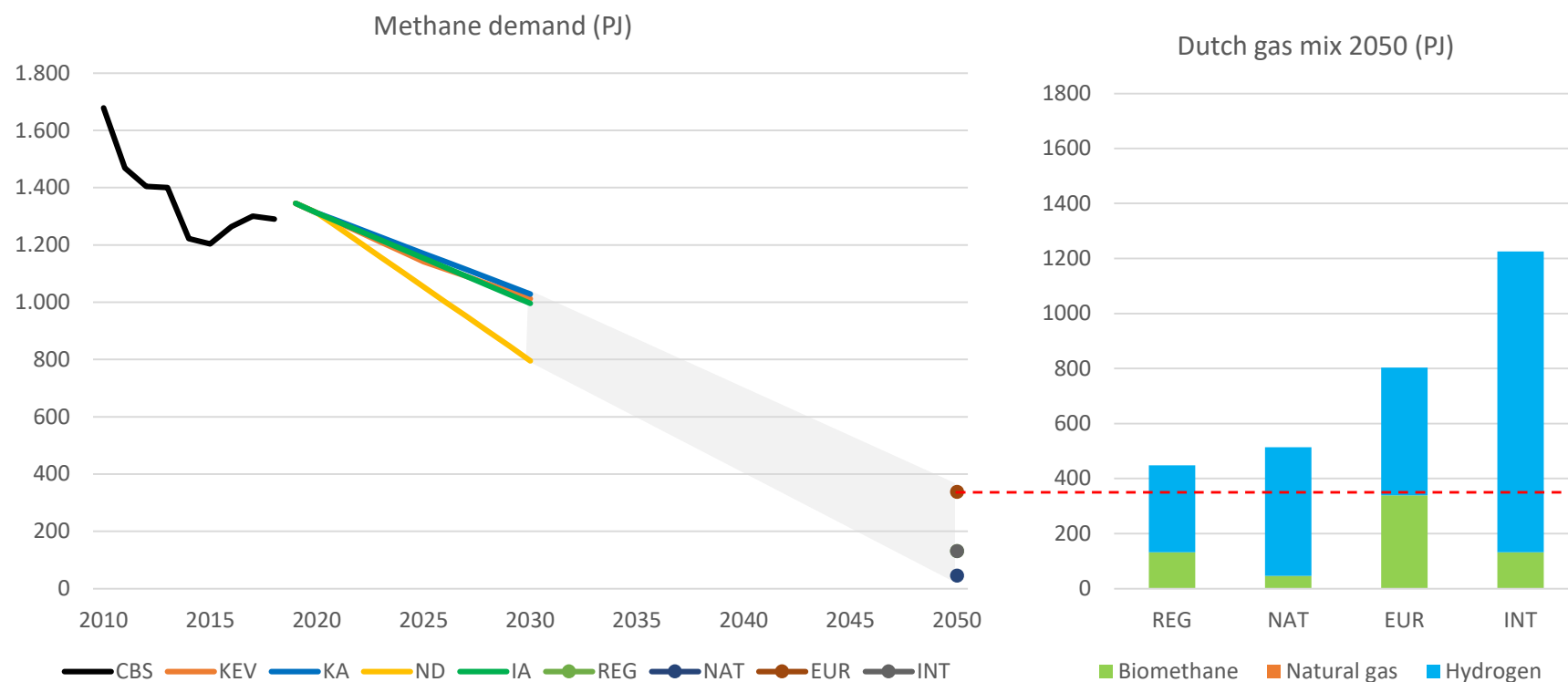
Note: The included figures are the scenasrio assumptions for 2030

Gas demand declines in all scenarios. Share of renewable gas increases. Pathway of current and proposed policies (KEV 2020) similar to IA and KA scenario



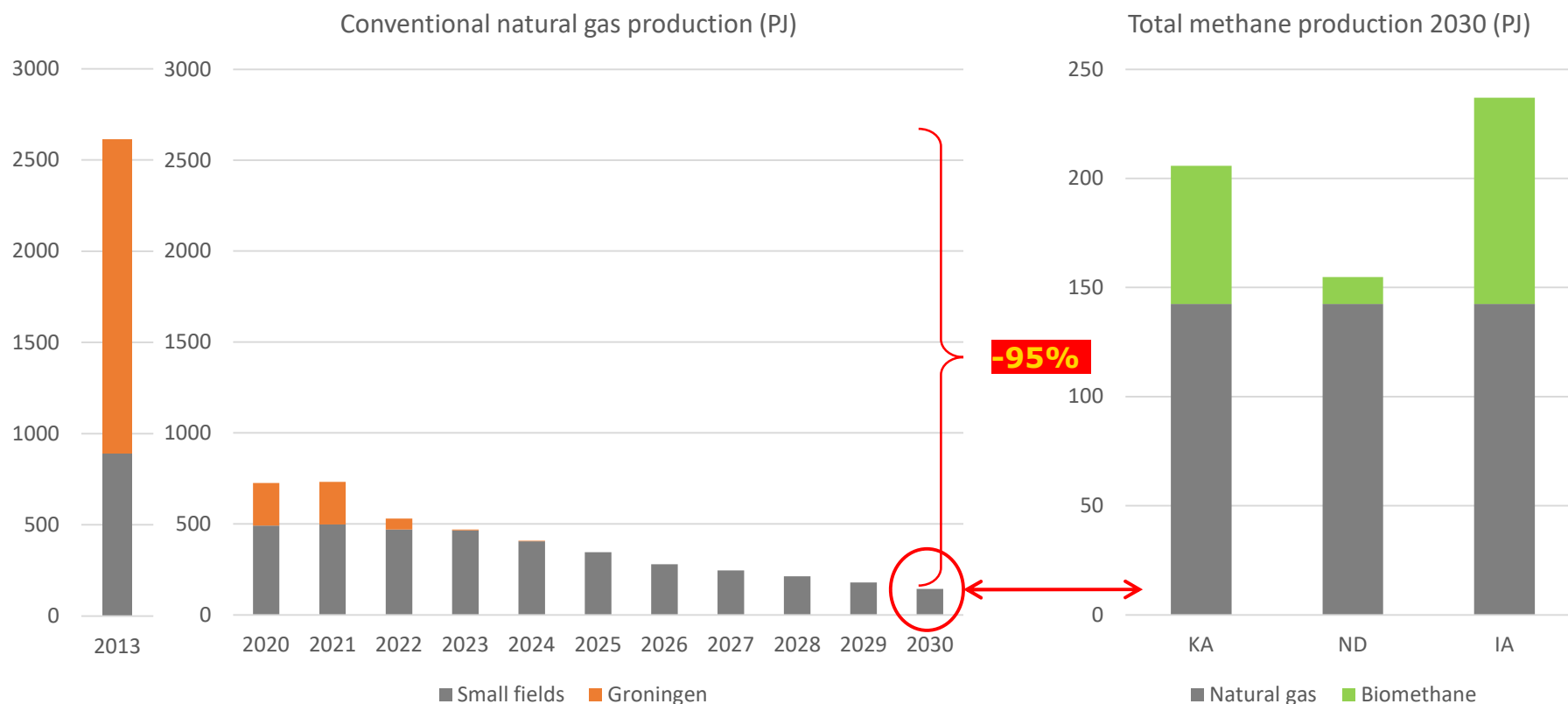
Note: Gas volumes are always presented in net calorific value.

After 2030 gas demand is expected to continue on a similar trajectory. The gas mix will be completely renewable by 2050*.

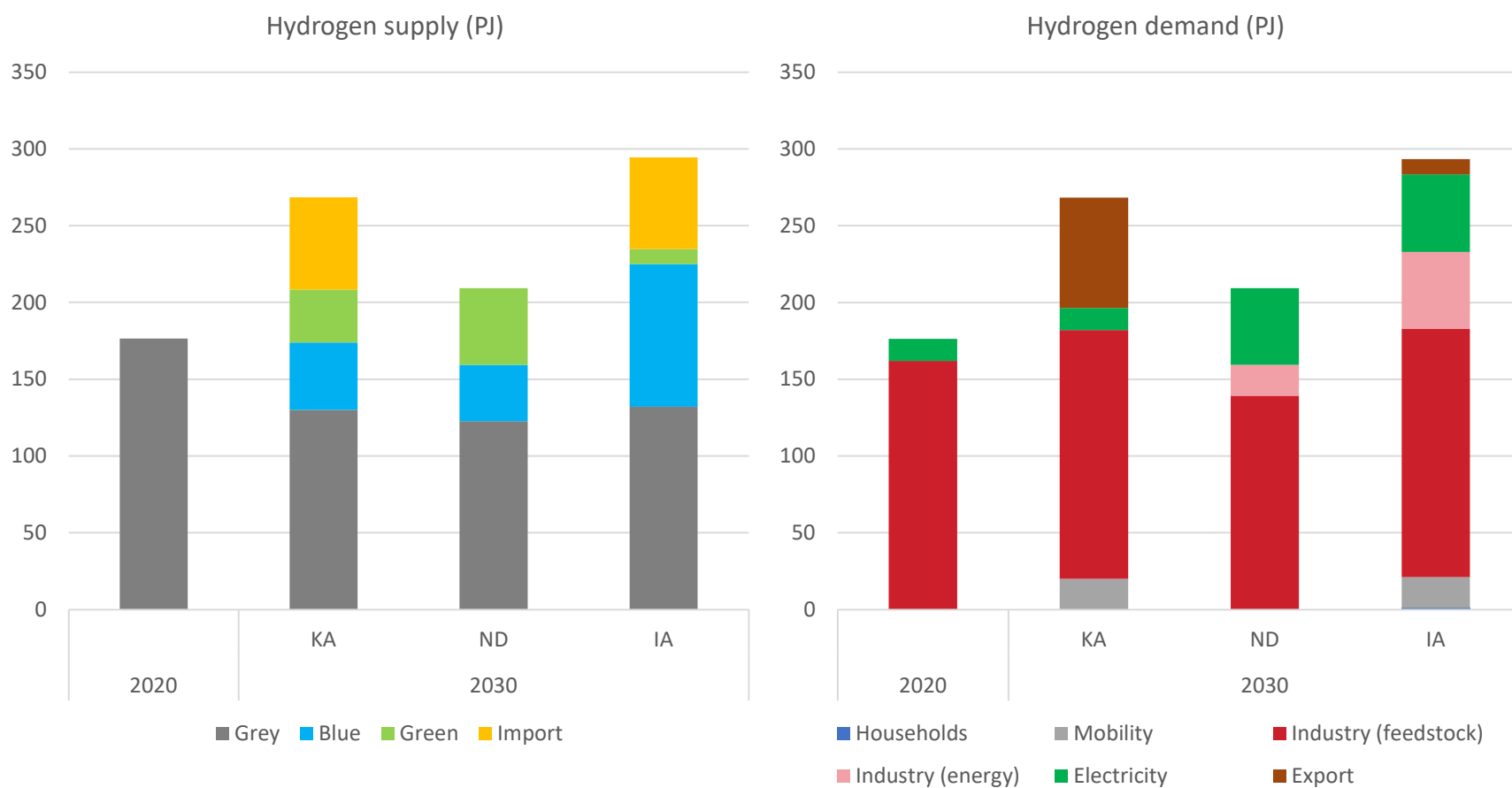


*Note: 2050 outlook taken from Berenschot/Kalavasta (2020)

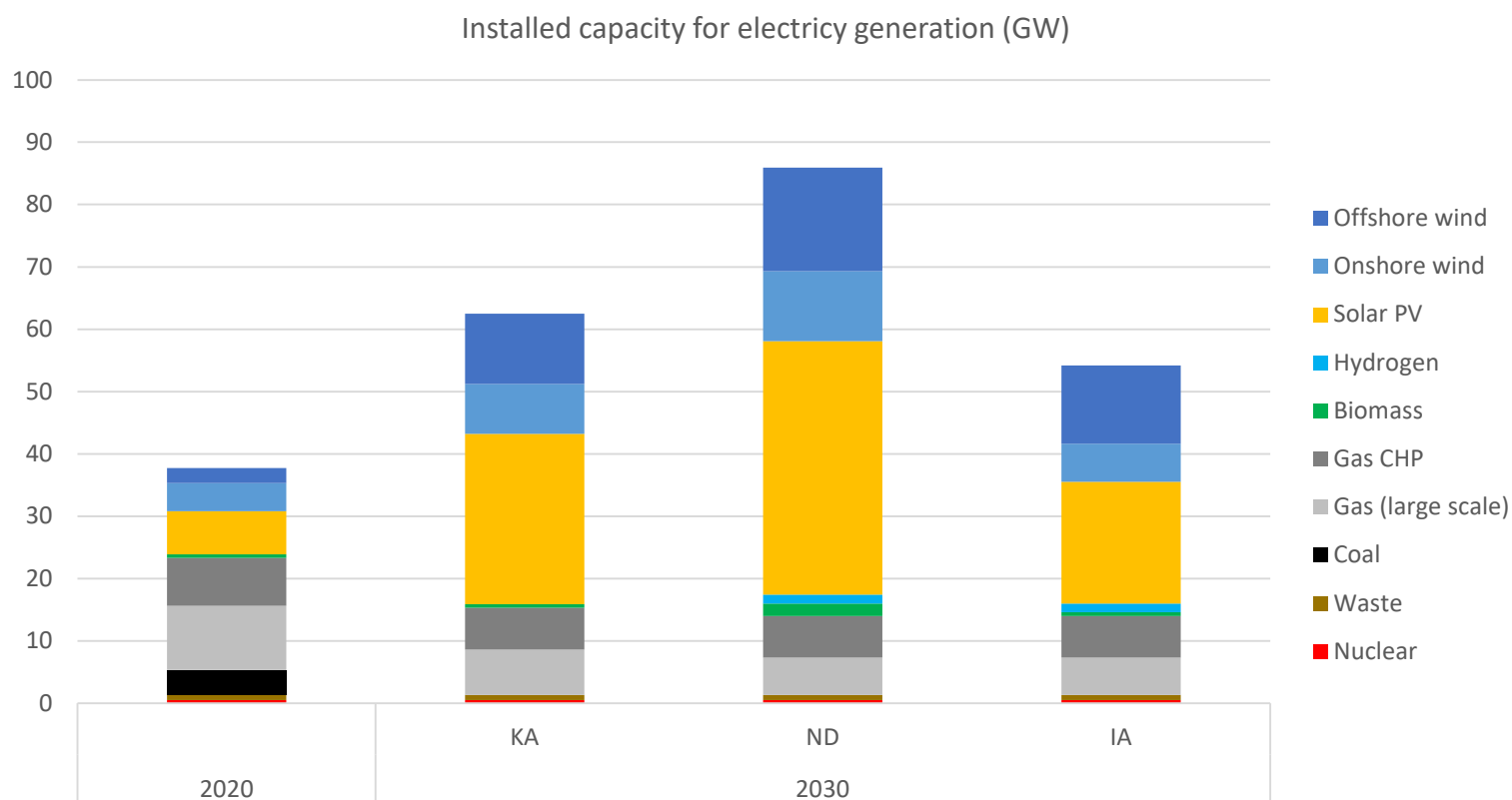
By 2030 the production of natural gas will be reduced substantially. In particular due to the closure of the Groningen field. Supply of renewable gas increases.



Hydrogen demand and supply differs between the scenarios. KA and IA scenarios also assume hydrogen transit to Germany

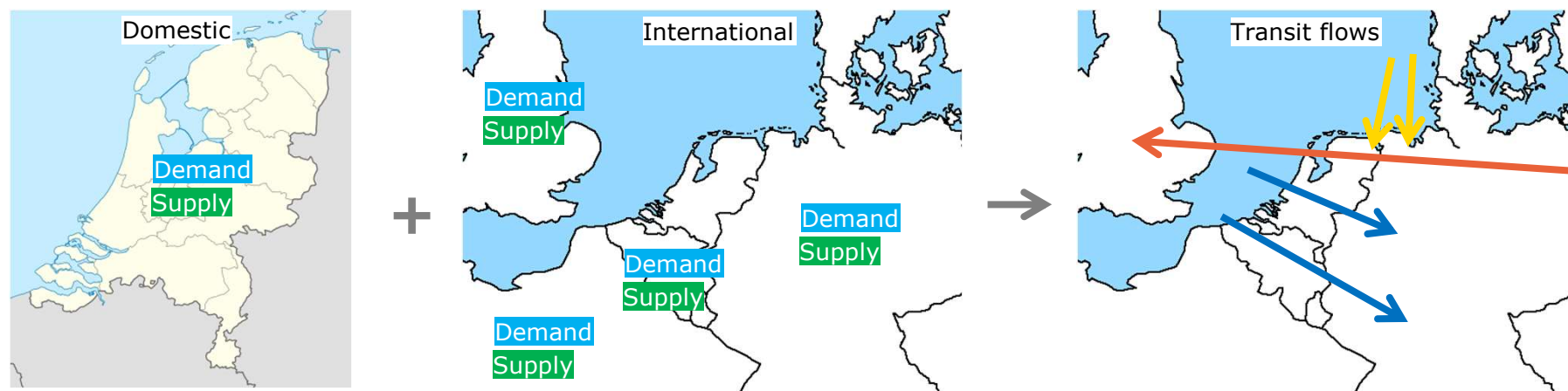


Installed capacity for renewables increases in all scenarios. In particular in the ND scenario. Conventional production declines, some dispatchables are converted to renewables (H₂, biomass).



Scenario assumptions for neighboring countries and resulting gas flows will be based on TYNDP 2020

- In addition to the gas for the Dutch domestic market, GTS also transports gas from and to other countries.
- L-gas export outlook is well known, as agreed with neighbouring markets
- Transit flows for H-gas through the Netherland depend on European developments in supply and demand.
 - GTS will estimate transit flow scenarios on ENTSOE/ENTSO-E TYNDP 2020 (to be published) and ENTSOE gas flow simulations.



Next steps in scenario building

The qualitative scenario descriptions (storylines) are final. The quantification modelling input parameters and annual energy demand is almost finished.

Next steps in scenario building:

1. Assessment of peak capacity demand,
2. Modelling of the electricity market by TenneT (provides the utilisation of gas fired power generation),
3. International natural gas flows: estimation of import, export and transit (based on ENTSOG TYNDP).

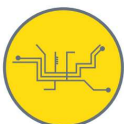
Full scenario dataset expected in April next year.

→ the scenarios are then input to the network assessment (bottleneck analysis).

Take aways



1. Dutch carbon emission target for 2030 (-49%) can be reached through different scenario pathways and technology choices.



2. Gas- and electricity infrastructure contribute to reaching this target, each in their own way. Additionally, the energy infrastructures are expected to become more and more integrated (sector coupling).



3. Renewable electricity generation will increase substantially in the years to come. Combined with increasing electrification of demand this will increase the load on electricity infrastructure.



4. Gas demand declines in all scenarios, but indigenous production will decline even faster. Therefore more gas import is needed. Supply of renewable gas (methane, hydrogen) will also increase.



Information session question

- We welcome your input on the IP2022 scenarios discussed, if possible in a public document
- Written views can be sent to gasmarket@gastransport.nl