

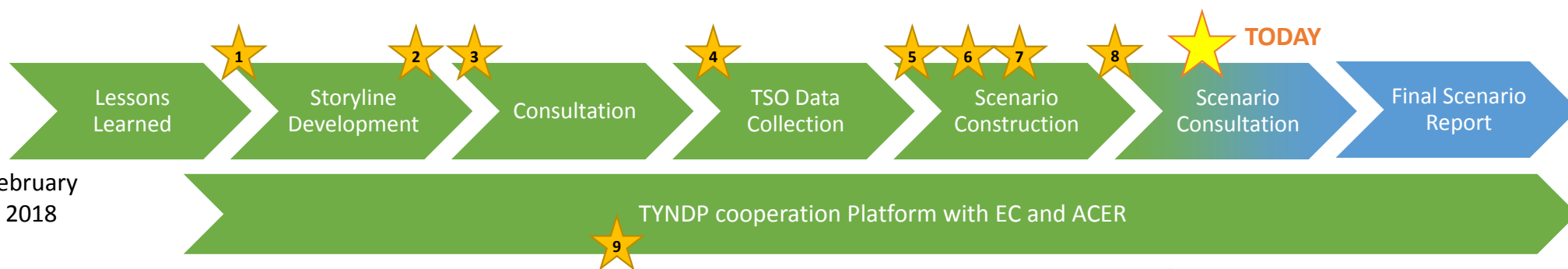
# Scenario Storylines

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# We developed our TYNDP scenarios with your help.

- |    |                                     |  |
|----|-------------------------------------|--|
| 1. | 29 May 2018                         | Workshop TYNDP scenario development                              |
| 2. | 2 July 2018                         | Publication five draft scenario storylines                       |
| 3. | 2 July 2018 until 14 September 2018 | Public consultation scenario storylines                          |
| 4. | 21 November 2018                    | Webinar scenario development proces update                       |
| 5. | 18 April 2019                       | Webinar final scenario storylines                                |
| 6. | 29 May 2019                         | Publication of final scenario storylines                         |
| 7. | 10 July 2019                        | Workshop on Gas Supply potentials and market related assumptions |
| 8. | 22 November until 17 January 2020   | Public consultation on draft scenario report                     |
| 9. | Entire process                      | TYDNP Cooperation Platform with EC and ACER                      |



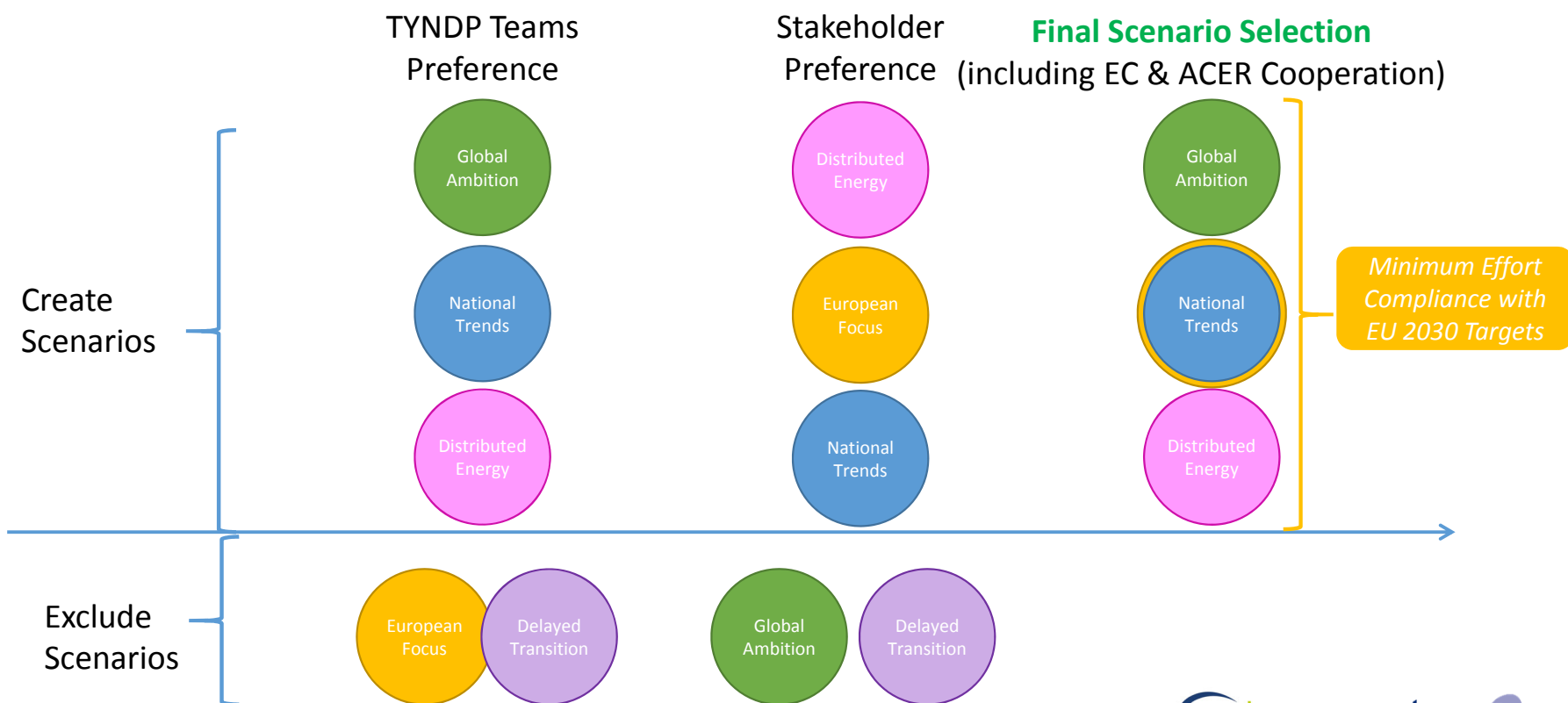
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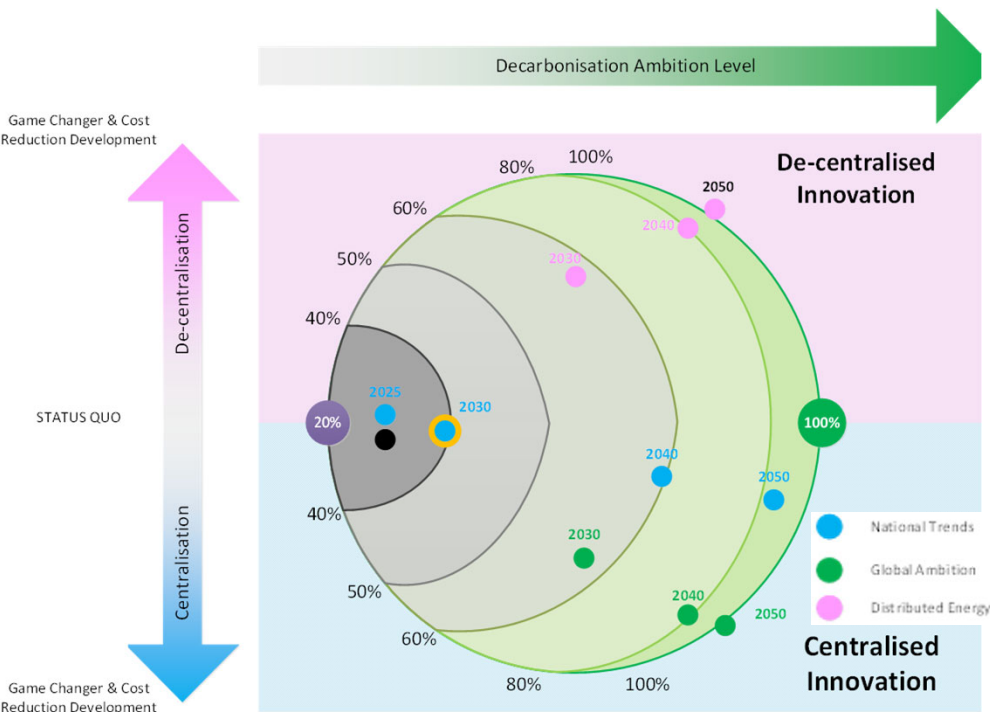
**In summer 2018 the ENTSOs published and consulted five draft scenario storylines for TYNDP 2020.**



# Based on feedback received, three out of five storylines were selected for inclusion in TYDNP 2020.



# TYNDP 2020 Scenario Storylines



## National Trends (NT)

- **Policy** Scenario based on draft EU National Energy and Climate Plans (NECPs)
- EU 2030 Energy and Climate Framework (32 % RES, 32.5 % energy efficiency)
- EC 2050 Long-Term Strategy: 80 – 95 % CO<sub>2</sub> reduction

## Distributed Energy (DE)

- De-centralised approach to the energy transition: active customers, small-scale solutions, circular approach.
- **COP 21:** +1.5°C target with 66.7 % probability
- Carbon neutrality by 2050

## Global Ambition (GA)

- Future is led by economic development in centralised generation, with large-scale renewables and decarbonisation.
- **COP 21:** +1.5°C target with 66.7 % probability
- Carbon neutrality by 2050

Contrasted scenarios reflecting very different pathways to reach EU targets

Note: TYNDP 2020 GA and DE storylines are a continuation of TYNDP 2018 *Global Climate Action* and *Distributed Generation* storylines

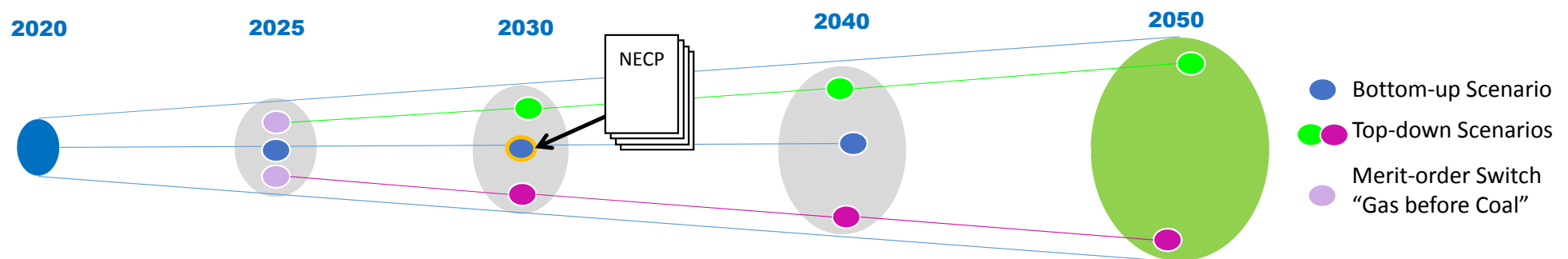
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**Your feedback and suggestions have helped improve the selected scenario storylines.** Below are specific examples on how the scenarios were improved using stakeholder engagement.

1. Specific for **National Trends**: Alignment with the National Energy and Climate plans (NECP).
2. Carbon Capture and Storage (CCS), reconsidered within the scenarios.
3. More ambitious carbon emission reduction.





# Alignment of National Trends scenario with Member State National Energy and Climate Plans (NECP)

- Member State NECPs provide input to the bottom up data used in the **National Trends** Scenario.
- Current NECPs are not final, but sign off is expected at the end of this year.
  - The current version of **National Trends** is based on best available information provided by TSOs.
  - **National Trends** has been benchmarked against the latest EC EUCO3232.5 modelling data.
- The final Scenario Report is due to be published early 2020. It may be possible that new information from the agreed NECPs can be included into the final **National Trends** scenario.



## Only limited role of CCS in the initial storylines. Based on feedback the use of CCS was increased within the top down scenarios.

- TYNDP scenarios need to consider all available technologies. CCS was included in **Global Ambition** and **Distributed Energy** in the following sectors:

-  Reducing **industrial** emissions via pre or post combustive carbon capture.
-  Supply of **renewable gas**, decarbonising the supply of hydrogen.
-  CCS applied to biofuels helps deliver **net-negative emissions**.
-  Finally CCS technology is used on a limited number of dispatchable **power plants by 2040**.





## Initially proposed storylines aimed for -95 % carbon emission for 2050. Stakeholders feedback suggested the storylines needed to be more ambitious!

- **National Trends** is in line with the carbon reduction targets set out in the NECPs: between -80 % and -95 % in 2050.
- Top-down scenarios **Global Ambition** and **Distributed Energy** are both COP21 compliant:
  - carbon neutrality by 2050
  - the scenarios follow carbon budgets in line with IPCC global warming +1,5°C pathways.
- A carbon budget approach was developed with advice from RGI and CAN Europe to make sure the top down scenarios comply with this target.

