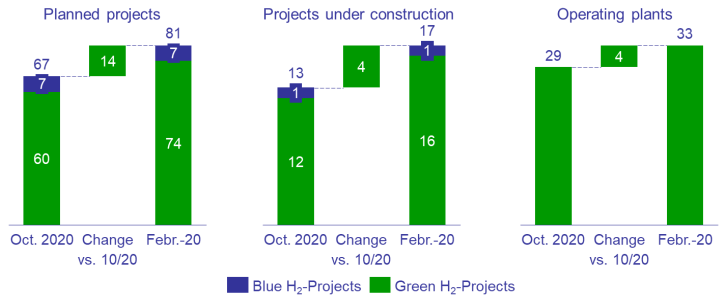
H_2-Market Radar

23.02.2021

KEY FACTS

- Since we published our first edition of the H_2-Market Radar at the end of June 2020, the number of H_2-projects in Northwest Europe increased from 80 to more than 130. 7 plants became operational during this period.
- The German federal states are now in a kind of competition to find the best investment opportunities for H_2 infrastructure. Especially the northern federal states have realized the value of a cooperative approach and agreed on a common agenda and quantitative goals.
- In our second edition we showed that many projects are aimed at the transport sector. This fits in with the observation that the growth of the H_2 filling station network has gained momentum with Germany taking the lead.

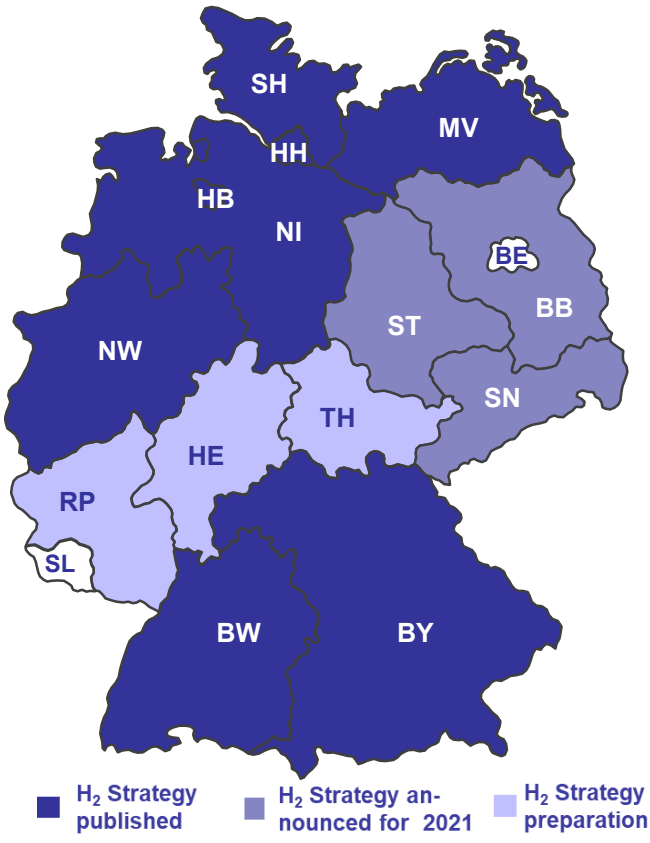
Development of projects in Northwest Europe (N, DK, UK, NL, B, DE)



Source: Research/analysis Team Consult

- There are currently over 130 hydrogen projects in Northwest Europe. 25% of these projects are already operational with a further 13% under construction.
- Since October the number of planned projects increased by over 14. Compared to the summer of 2020, this number even increased by 35 projects. Especially green projects show a strong growth.
- Germany has a leading position with regard to operational and planned „green“ projects.

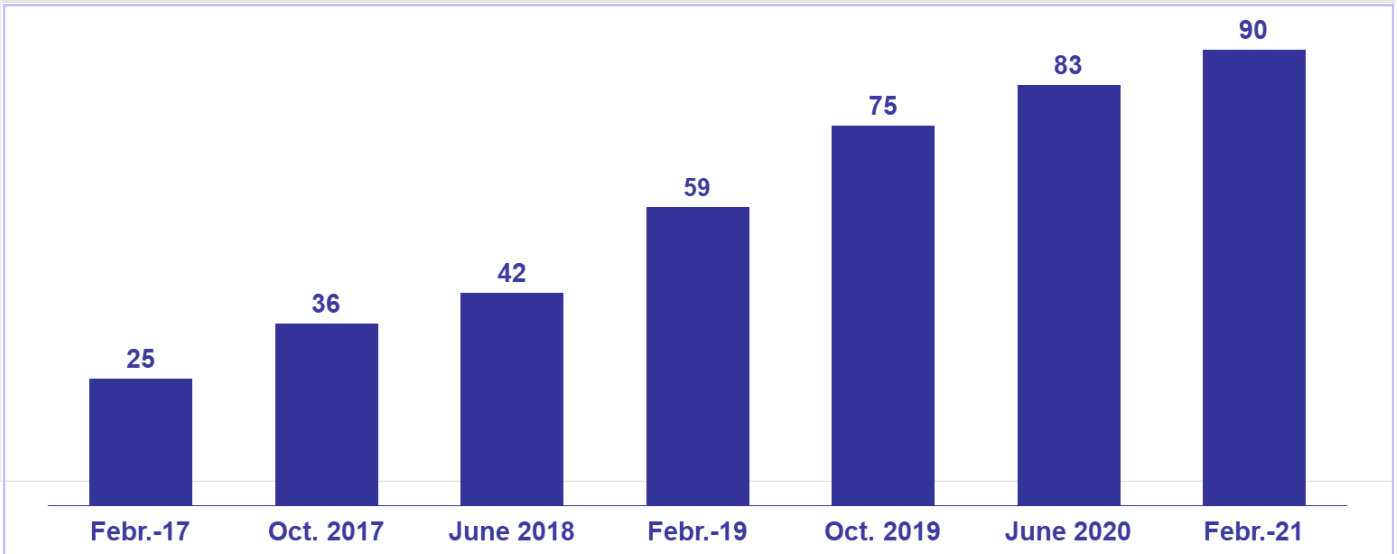
Hydrogen strategies of the German federal states



Source: Research/analysis Team Consult

- In June 2020 the federal government of Germany published the national hydrogen strategy.
- In the meantime a number of several federal states have published their own strategies or announced to do so in the near future.
- The states of Bavaria, Baden-Württemberg, North Rhine-Westphalia and Schleswig-Holstein have already adopted individual strategies.
- In contrast, the Saarland and Berlin are still in an intensive political discussion about possible hydrogen strategies.
- In addition to these individual initiatives, the northern federal states (SH, HH, NI, HB, MV) have also published a joint strategy including specific quantitative targets.
- The strategies published so far focus on the production and import of green hydrogen. In North Rhine-Westphalia grey, blue or turquoise hydrogen could also play a role as transitional solutions on the road towards a green hydrogen economy.

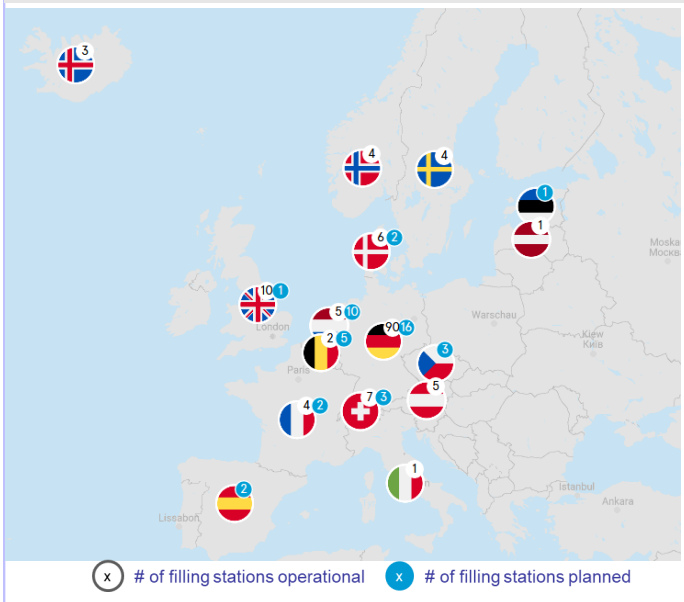
Development of public H_2 filling stations in Germany



Source: H2 Mobility & Team Consult analysis

- Since 2009 the development of a network of H_2 filling stations has been driven by the "H2 Mobility" consortium. The consortium was founded with the objective to make "hydrogen and fuel cell technology an integral part of the drive mix of the future."
- When the consortium was formed there were just 7 public filling stations. Over the past 10 years, and in particular since 2017, the number of stations rapidly increased to 90.
- So far, development activities were focused on building a refueling infrastructure in metropolitan areas and along major highways, offering services for passenger cars or light-duty vehicles.
- The consortium has provided the groundwork with regard to infrastructure, as the actual number of fuel cell vehicles in Germany developed very slowly (507 vehicles on the road in 2019).
- In the second development phase, which is starting now, the focus of development is set on creating additional refuelling capacities for buses and other commercial vehicles as well as a extension of the existing network.

Development of public H_2 filling stations in Europe



- The adjacent map provides an overview of the number of existing and planned hydrogen filling stations in Europe.
- Germany is currently leading in the development of a publicly accessible filling station infrastructure for hydrogen vehicles. The Netherlands and the UK follow by a wide margin.
- It is noteworthy that large countries like Italy, Spain or France currently have none or just a few hydrogen filling stations. Also Eastern Europe shows very little to no activities in this sector.
- However, the map also shows that the expansion of the network of filling stations will continue, especially in neighbouring countries, like the Netherlands or Belgium.
- In addition to the filling stations shown on the map, many countries also have non-public stations that are used by fleet operators.

Source: H2 Mobility; Map data © 2021 Google, INEGI

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