

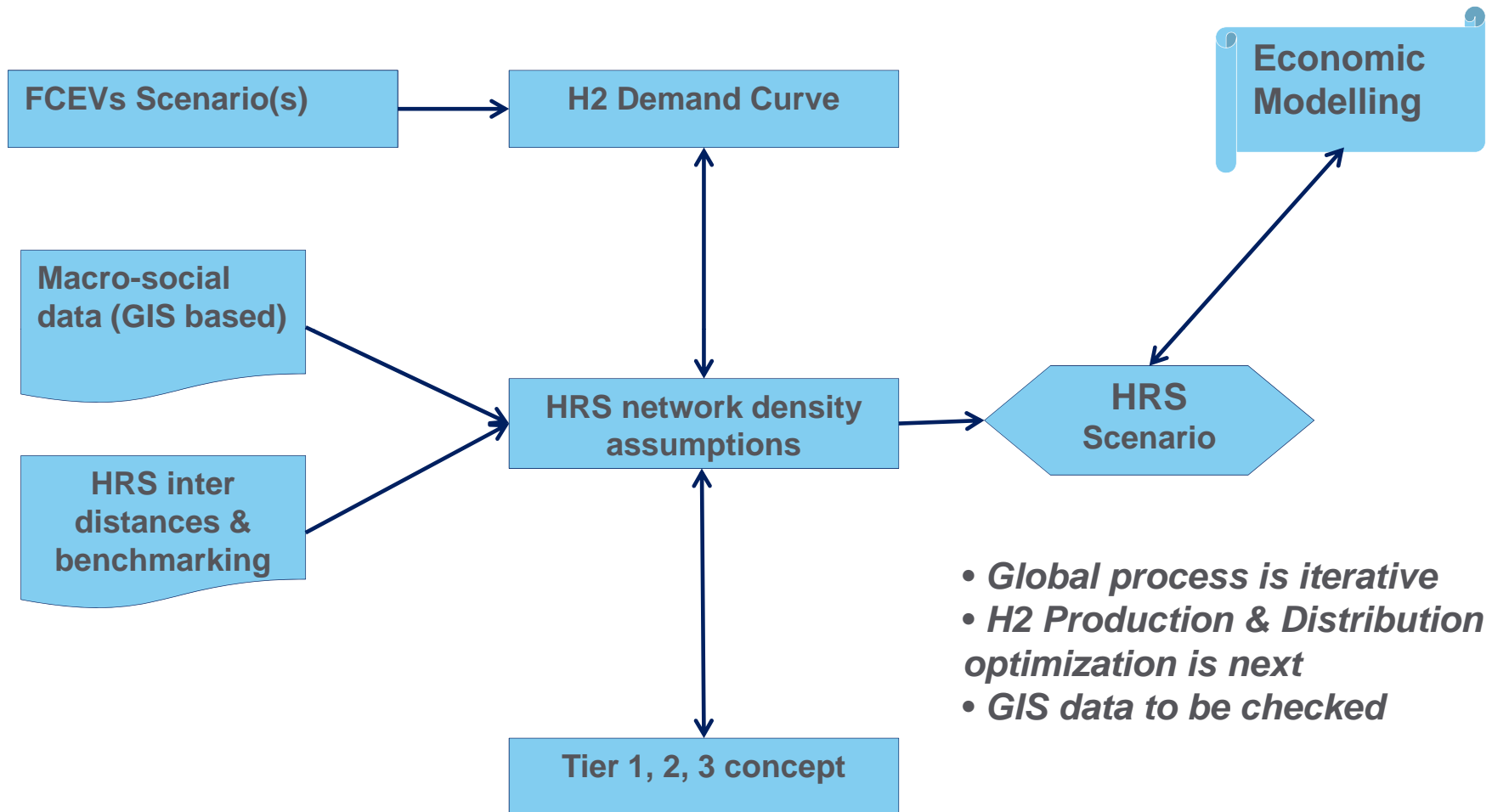
## An Overview of H2 Mobility Initiatives in terms of HRS Roll-out & Investment

Paris, 9+10 July 2013 | Philippe Mulard | Air Liquide advanced Business

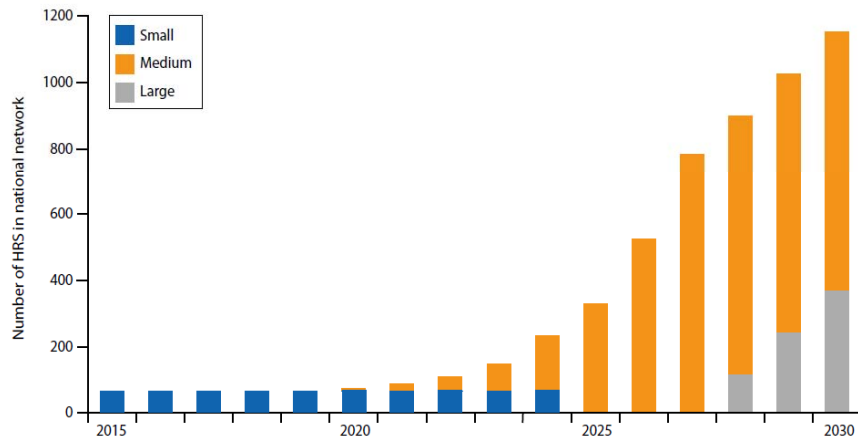
# Scope of review & Main assumptions

- What follows is based on H2 Mobility initiatives developed for Germany & UK
  - It is not « another » H2 Mobility communication exercise.
  - It is not disclosing proprietary information.
  - It is trying to extract lessons learnt from both HRS roll-out exercises.
- Main assumptions for HRS Roll-out within H2Ms:
  - Passenger cars mostly & Top Down approach
  - Synchronisation of FCEVs & HRS deployment scenarios
  - Same Overarching Principle:
    - « The HRS network roll-out aims at striking a balance between maximum customer convenience (FCEV uptake) and investment required »
  - and Same Difficulties:
    - Low initial utilization of HRS
    - Need to derisk the business case to secure initial investment

# HRS network planning for H2M DE&UK: Similar Approach (with differences)



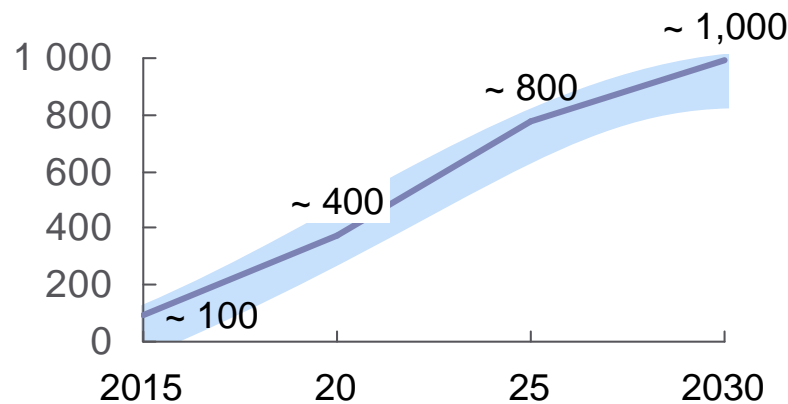
# Current HRS scenarios for H2M UK & DE



- For the UK case, Base Coverage @ 65 HRS estimated to be sufficient to cover main metropolitan areas.
- Full national coverage est. @ 1,150 HRS by 2030.
- Break-even not before 2020s.
- Before 2020s, securing the initial investment is challenging due to the level of upfront investment and low revenues. Political/financial support needed.

## HRS built (cumulative, 20 years lifetime)

No. of HRS



- For Germany, Base Coverage @ ca 100 HRS estimated to be sufficient to cover main metropolitan areas.
- Full national coverage est. @ 1,000 HRS by 2030.
- Break-even not before 2020s.
- Same remark as above regarding the issue of initial investment cover. A JE type of approach is currently considered.