Doncaster Hydrogen Feasibility Study – main points

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Feasibility Study

The Doncaster Hydrogen Refuelling Hub Feasibility Study is being delivered by Beta Technology in partnership with Doncaster Council.

The project is part-funded by the UK Government through the UK Community Renewal Fund.

UK Government

SOUTH YORKSHIRE SYMCA MAYORAL COMBINED AUTHORITY

Doncaster Council

BUSINESS DONCASTER

beta

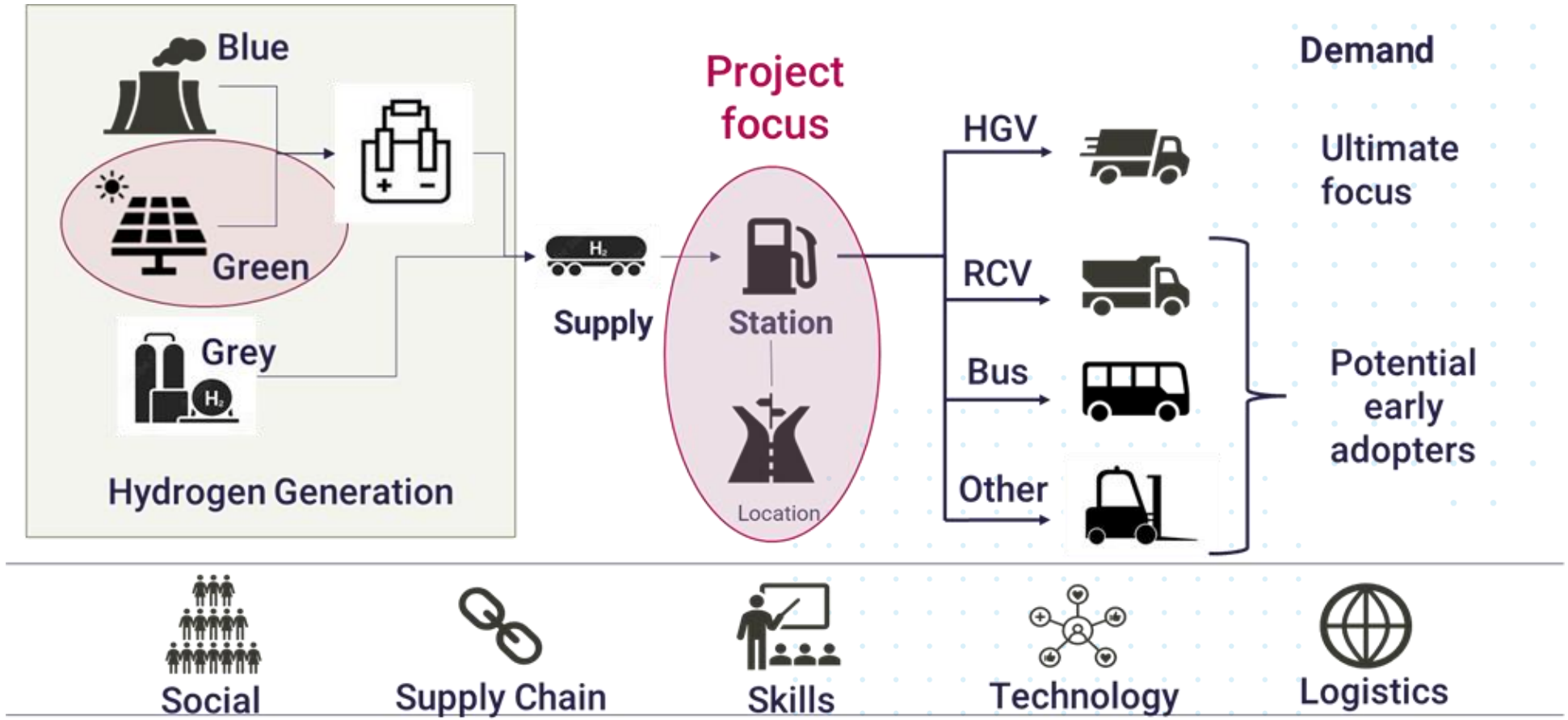
Beta Technology has worked with the following partners to deliver this feasibility study:

Market Infra

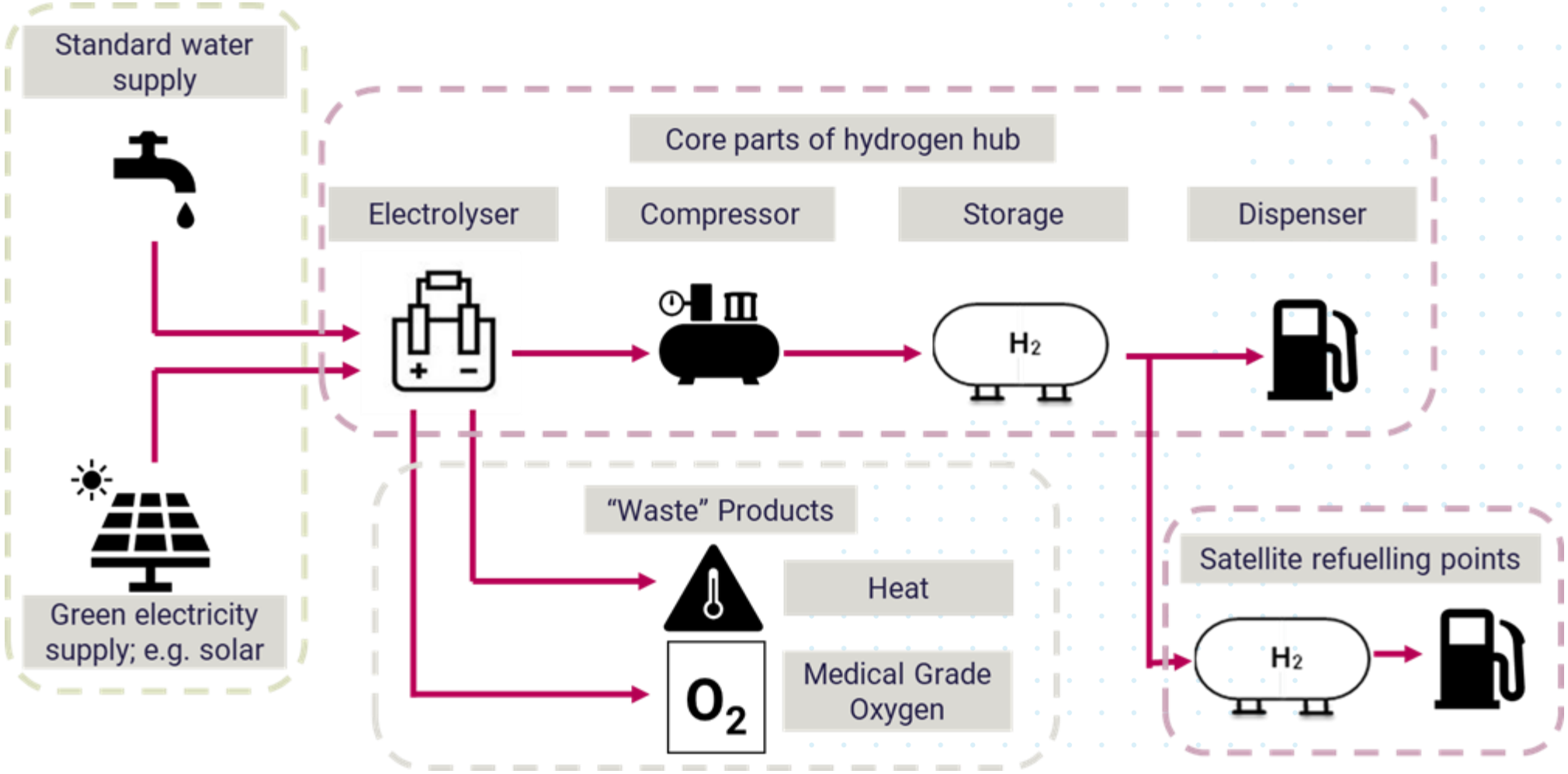
cenex

Brunel University London

Project Overview



Core aspects of hydrogen generation and refuelling:



Summary Points – why Doncaster ?

- Road and rail network focussed on freight;
- Solar farm schemes in concept and planning could enable green hydrogen to be produced using new renewables.
- Local survey of potential road transport vehicles showed a conservative potential demand of >698 kgs of hydrogen per day rising to 4,712 kgs in 2030.
- M18, A1 and M62 provide an opportunity for “passing trade” as hydrogen fuelled trucks become more common.
- A skills development sector that has a broad engineering focus from University Technical College through to university and research.
- Proximity to a potential hydrogen pipeline from East Coast Hydrogen

Doncaster's Central Location

Summary Points – demand

Local demand:

- Local and some national haulage companies surveyed, focussed on 44t.
- Other users including the Doncaster Refuse Collection service was consulted.
- Potential off-road use included iPort Rail reach stackers for containers.

"Passing" demand:

- Analysis of HGV traffic flows on the A1 and M18, and assumptions of the potential number of hydrogen fuelled HGVs passing three locations analysed (Redhouse, iPort and Hatfield) indicated that iPort is the best location (covering both the A1 and M18).

Analysis did not include: Local buses; NHS; company own HGV fleets

Summary Points – perceptions

Desk study by Brunel University London of the “Community Acceptance of the Introduction of Hydrogen to Doncaster”.

Main points were:

- Low public awareness of hydrogen technology in general but increasing.
- Greater knowledge of hydrogen technology is associated with greater support for its use.
- Low awareness need not be barrier to acceptance.

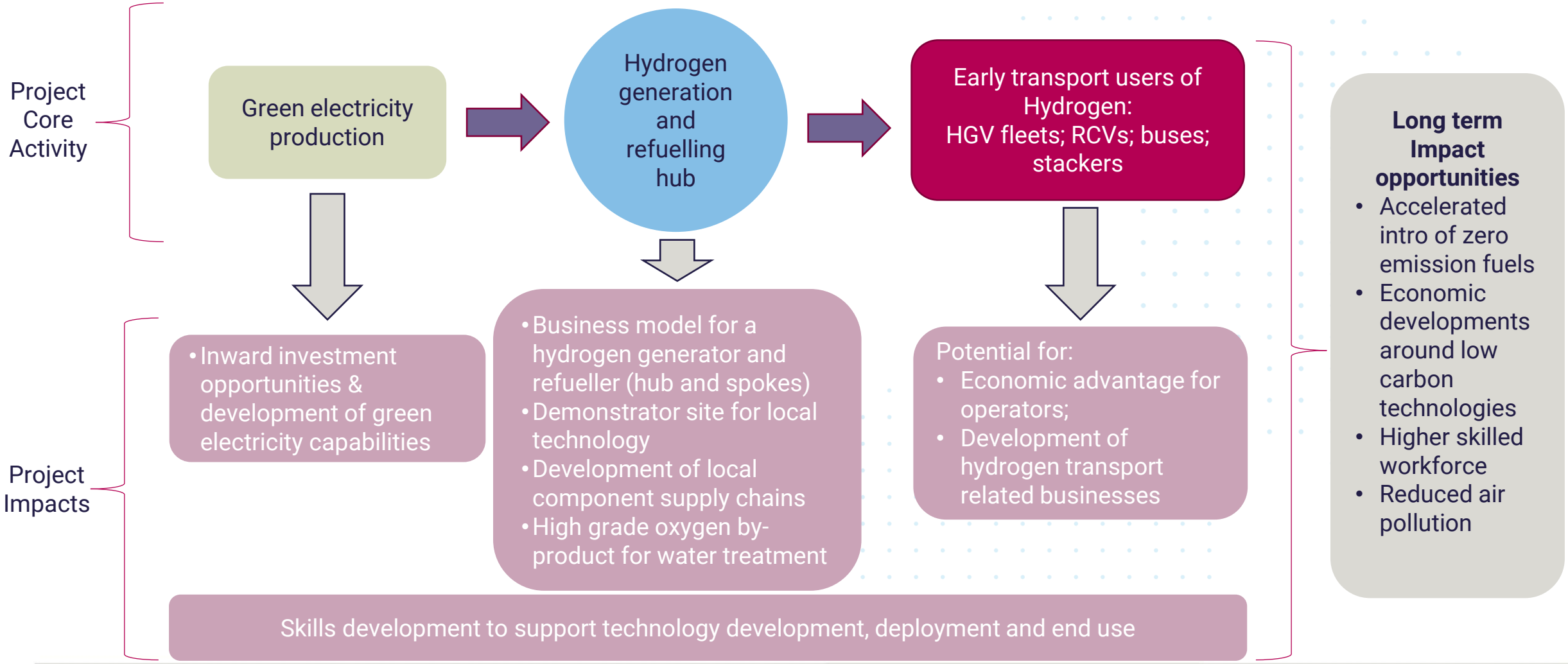
Key Drivers of social acceptance of hydrogen:

- Demographics
- Environmental Attitudes
- Visible Existing Use
- Trust
- Local Level Benefits
- Infrastructure
- Credible knowledge brokers

Summary Points – skills

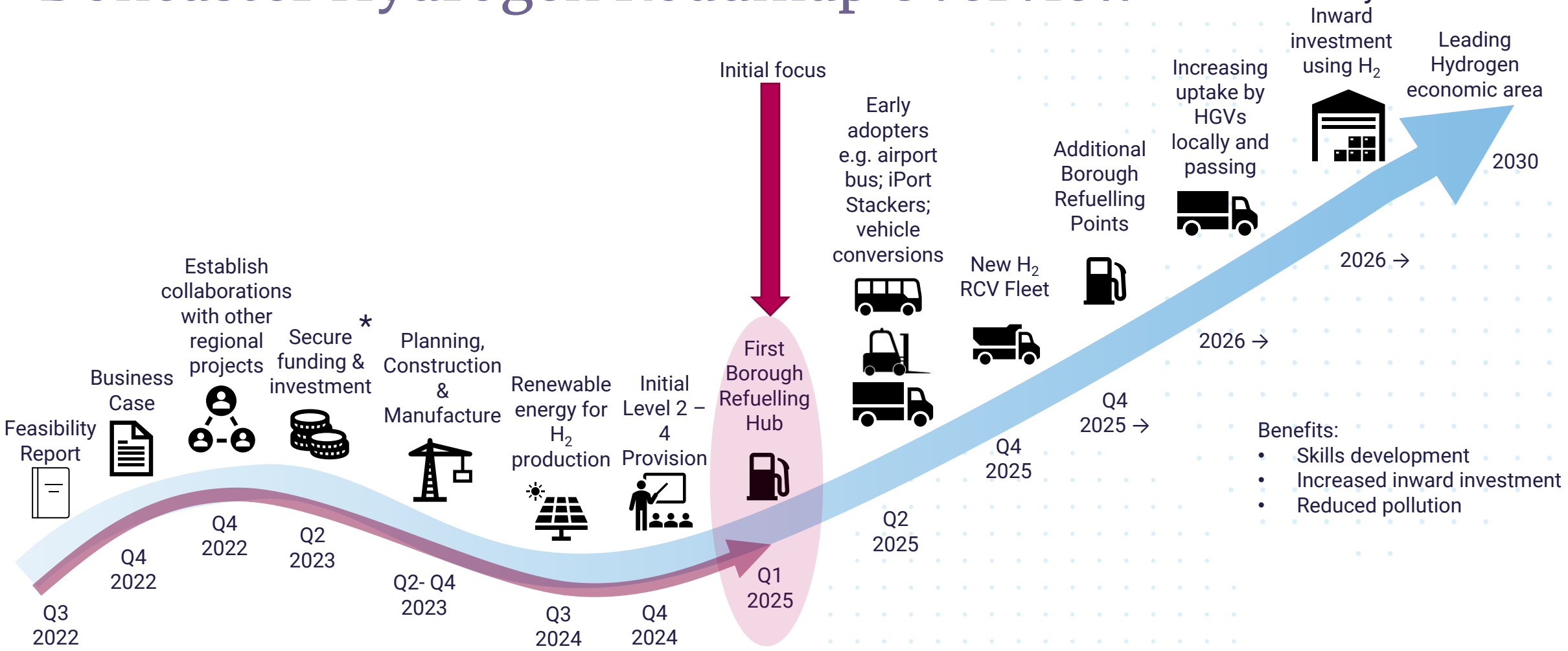
- Existing skills within industries:
  - handling of gaseous fuels,
  - manufacture and repair of vehicles, particularly hybrid and electric vehicles
- Hydrogen skills may need to be more a case of a modular ‘upgrade’ rather than of a complete reorientation.
- Near term the most relevant skills opportunities to support the deployment of vehicles and refuelling stations would be:
  - hydrogen vehicle and hydrogen refuelling station awareness
  - vehicle servicing and repair
  - fleet planning

Roadmap Destination



Doncaster Hydrogen Roadmap Overview

Strictly Confidential



Benefits:

- Skills development
- Increased inward investment
- Reduced pollution

* Separate Gantt chart illustrates funding and construction

On-going Stakeholder Engagement, including wider general public engagement on the topic of hydrogen.

Implementation Plan

Implementation plan developed as part of the study covering:

- Project profile
- Skills
- Land
- Hub development
- Demand
- Investment/Funding
- Supply chain
- Visitors centre
- Wider uses

A vision:

Courtesy: Bond Bryan