

Green Heat Network Fund *Evaluation Plan proposal*



Department for
Business, Energy
& Industrial Strategy
Analysis

BEIS Heat Networks Analysis
7 December 2021

Outline

1. Overview of the evaluation
2. Evaluation aims and objectives
3. Research questions
4. Approach and methods
5. Timeline and deliverables

Questions & Feedback at the end of the session.

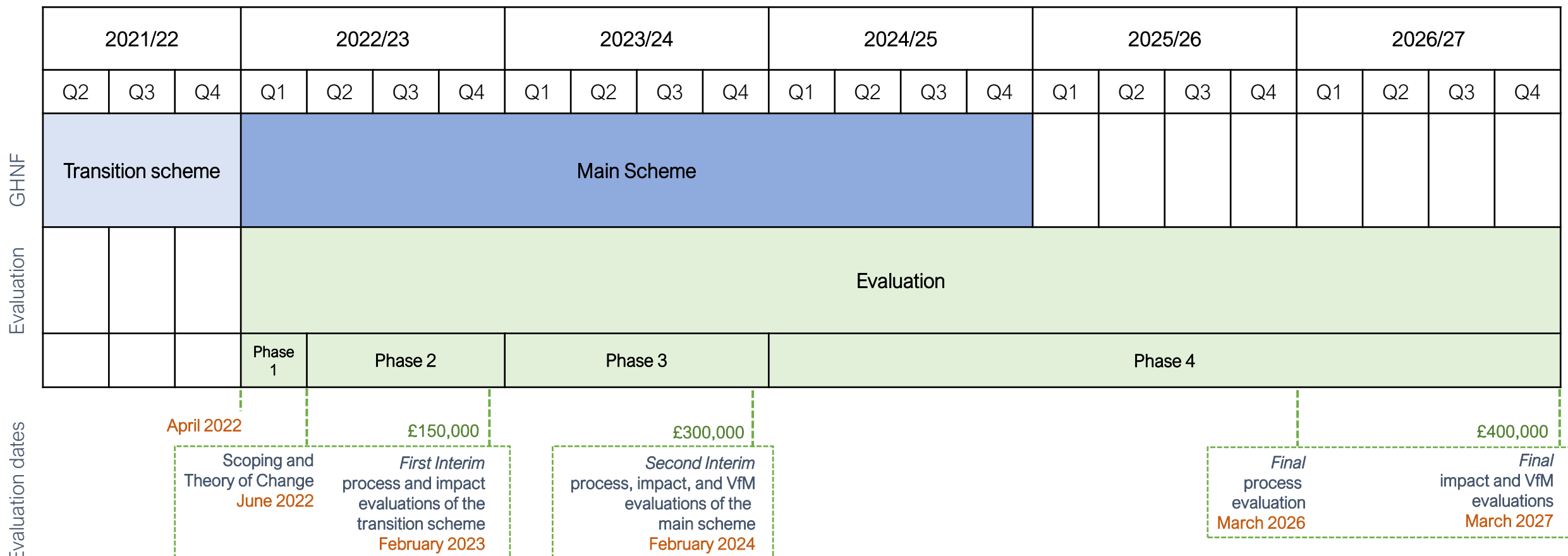
Why are we holding this supplier event?

1. To inform potential bidders about the evaluation contract for GHNF
2. To get feedback on:
 1. Do the methods and budget seem reasonable?
 2. Would suppliers be more/less likely to apply if this was procured as three lots instead of one?
 3. Do suppliers feel confident that they can meet the skills requirements of both the economic/CBA modelling and the theory-based evaluation?

GHNF evaluation at a glance

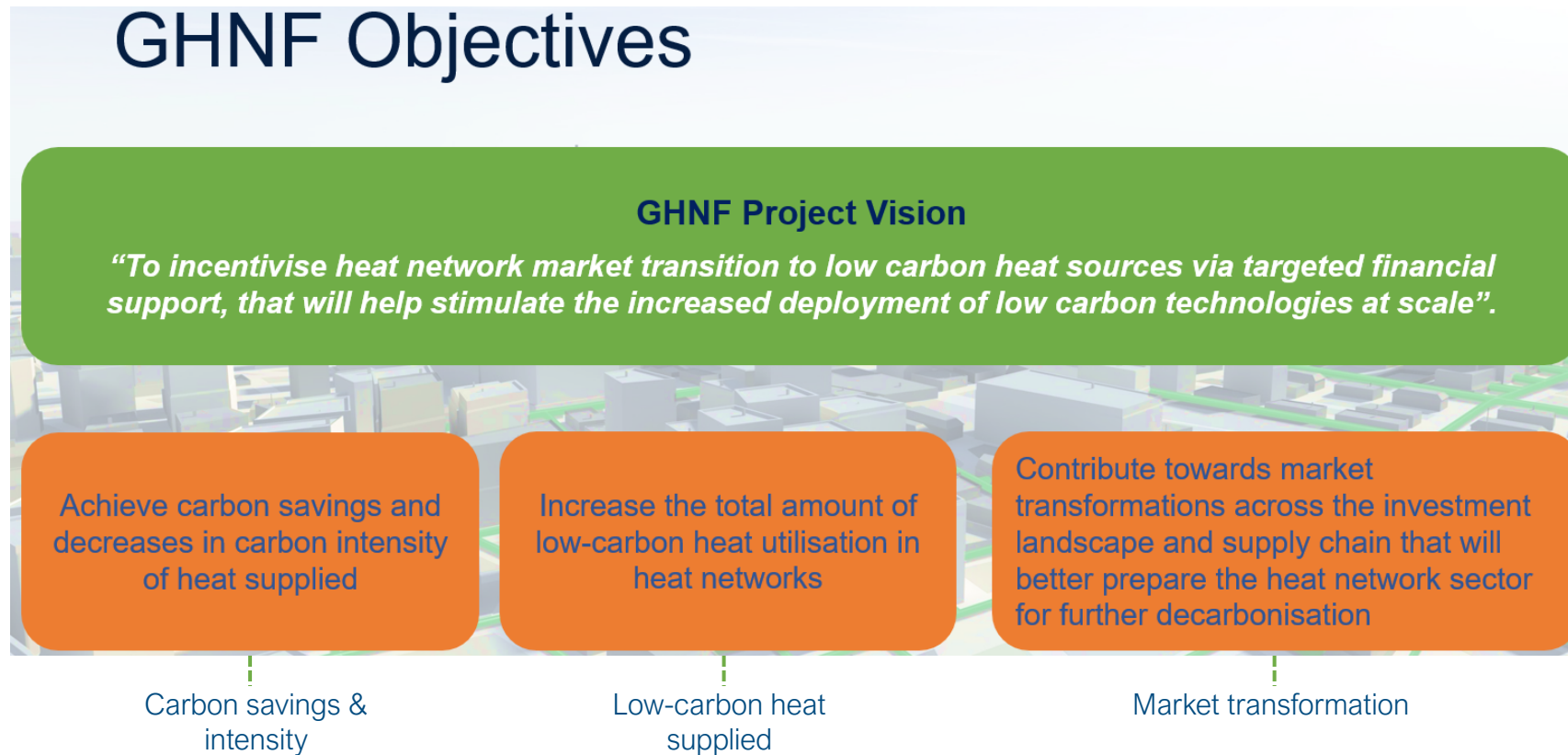
- **Timeline:** April 2022 - March 2027 (5 years)
- **Budget:** £850,000
- **Participants:** around 100 applications expected over 11 rounds (unknown how many will be funded)
- **Some key stakeholders:** sponsors, investors, supply chain, consumers
- **Type of evaluation:** process, impact, and VfM evaluations (interim, and final)
- **Approach:** Theory-based evaluation, quasi-experimental (where possible), and cost-benefit modelling
- **Methods:** workshops, interviews, case studies, surveys, focus groups, media analysis

Overview



Aims and objectives

Evaluation aims and objectives



Evaluation aims and objectives

Evaluate how the scheme is delivered, what works, and what could be improved

1. Evaluate how the scheme is progressing towards its stated aims and objectives, and if the way the scheme is delivered supports the overall impacts
 - comparing projects' (estimates of future) benefits to the scheme's intended outcomes
2. Evaluate the impacts on stakeholders and on the heat networks market
3. Evaluate the emerging cost and benefit of the scheme

Overarching evaluation questions

What works (and does not), for whom, when, how, in what context, for different types of applicants?

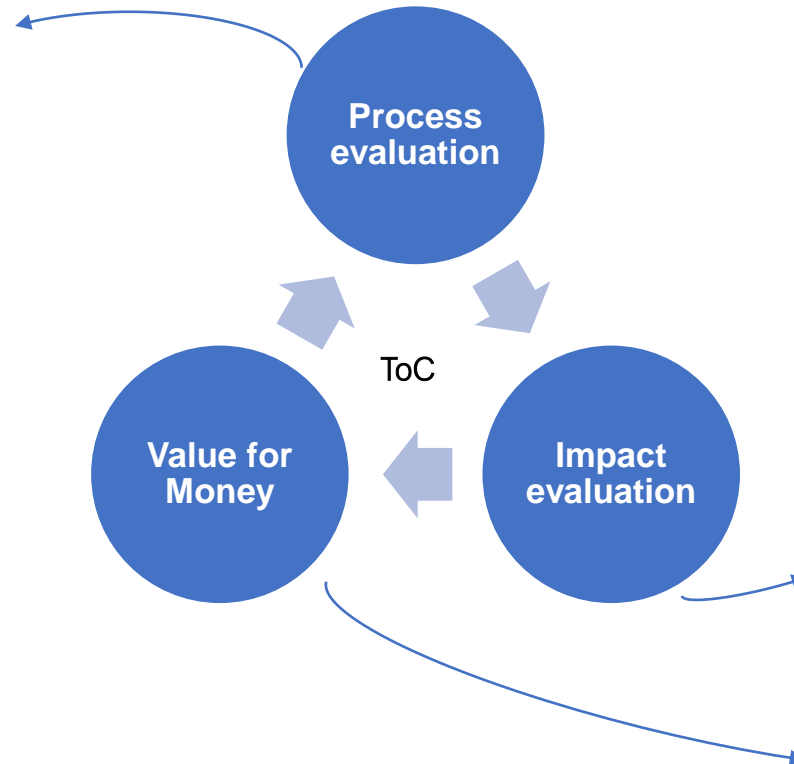
What are applicant's experiences when interacting with the scheme at different stages?

How is the scheme being delivered?

How are projects interacting with and navigating the supply chain in order to deliver the market transformation commitments (MTCs)?

What improvements can be made & what lessons can be learned?

Process



What are the impacts of the scheme and how these were achieved, for whom, when, and in what context?

Whether the scheme is delivering on its aims

1. Carbon savings & carbon intensity
2. Low-carbon heat delivered
3. Market transformation
 - Sponsors
 - Consumers
 - Investors
 - Supply chain and wider market

Impacts

What is the scheme value for money?
Value for Money

Research questions

Note: The methodology outlined here is *suggested*; bidders are encouraged to put forward alternative appropriate proposals within the evaluation budget.

Process evaluation questions

Pre-award stages: Application, award and project initiation

1. What are the **applicants' experiences** of the overall application process, and how does this vary by applicant or project type and why?
2. What types of projects are **successful/unsuccessful** at the application stage, and why?
3. Has the **low-carbon requirement** created any difficulties for projects during the commercialisation and construction phases?

Post-award stages: Development, commercialisation, and construction

1. What has the **overall experience** been for projects, how does that vary, and why?
2. How do **outcomes differ** between projects and what are the causes of those outcomes?
3. Does the **process support** the overall aims of the scheme, and does the way the scheme is delivered have an effect on the impact of the programme?
4. Is the **guidance and support** meeting the needs of projects?

Ongoing themes

1. Are **projects on track** to deliver forecast **benefits and outcomes**?
2. Are projects on track to be delivered **on time and to budget**?
3. Has GHNF successfully **integrated with other BEIS policy objectives**, such as the future homes standard or heat network market framework, or other HNTF policies?

Impact evaluation questions

Impacts on carbon savings and heat delivered

What outcomes is the scheme delivering in terms of:

1. **carbon** savings and carbon intensity
2. the number and type of **heat networks**
3. the amount of additional **low-carbon heat delivered**

Impacts on the heat networks market

Sponsors

1. What effect is GHNF having on sponsors' **capability, capacity and skills** changing, and what are the mechanisms involved?

Consumers

1. What effect is GHNF having on consumer **awareness, attitudes and behaviour**, towards heat networks and transitions to sustainable heating, and what are the mechanisms involved?
2. Did projects abide by their commitment to ensure there was **no detriment** to consumers at risk?

Investors

1. What effect is GHNF having on the **heat networks investment**, and what are the mechanisms involved, in terms of the number and type of investors, and investor behaviour?
2. How has GHNF contributed to overcoming barriers to heat networks investment?

Heat supply chain and wider market

1. What effect is GHNF having on the supply chain and wider market and what are the mechanisms involved?
2. How is behaviour changing and what further barriers remain to **a sustainable heat networks market**?

Value for Money evaluation questions

Economic impacts

What is the emerging cost-benefit analysis position of the scheme ex-post?

1. What are the **quantifiable costs and benefits** that have been realised that are attributable to the scheme?
2. How does this compare to the ex-ante view of the cost-benefit analysis of the project?
3. Are supported projects providing good **value for money**?
4. Can we say anything ex-post about whether alternative support models would have delivered better value for money?

Approach & Methods

Approach

1. Theory-based evaluation (e.g., realist evaluation, qualitative comparative analysis, process tracing)

- due to the complex nature of GHNF & because it is difficult to develop a robust counterfactual for all the aspects of the intervention
- to understand *how and why* the scheme contributed to the intended change (the context, the mechanisms and the causal links involved)

2. Quasi-experimental approach

- potential comparison group
- e.g., regression continuity design (RDD)

3. Complexity appropriate (e.g., modular approach)

4. Theory of change to be developed at the outset, which should underpin and inform the design of the whole evaluation

5. Triangulation of evidence from different data and methods, both qualitative and quantitative

Approach

Outcomes should be examined in terms of:

1. Attribution

- What outcomes can be attributed to GHNF or can we infer what would have happened anyway in the absence of GHNF?
- Can any potential (partial) counterfactual/comparison groups be identified, for use in some of the elements of the evaluation?

2. External factors

- Are external factors impacting how GHNF achieves its outcomes (barriers or enablers)?

3. Intended vs. Unintended outcomes

- Are there any positive or negative unintended outcomes that have not been predicted by the Theory of Change?

4. Underlying mechanisms causing outcomes

Data

Projects' application & monitoring data

- **Application data:**
 - type of project/project sponsor
 - type of low-carbon heat generation
 - anticipated project milestones, projected cashflow
 - projected heating demand and fuel consumption, projected carbon intensity
 - projects' Market Transformation Commitments (qualitative or quantitative)
- **Monitoring data during commercialisation and construction periods:**
 - progress towards milestones (including Market Transformation Commitments)
 - updates to budgets and projections
 - number and type of suppliers and investors engaged
- **Monitoring data during operational period:**
 - actual data on heat delivered, fuel consumption and carbon intensity
 - consumer experience data

Evaluation contractor is encouraged to contribute to monitoring plans and templates to ensure that sufficient data will be collected to inform the evaluation

Primary data collection

1. Workshops
2. Interviews
3. Case studies
4. Focus groups
5. Surveys
6. Media analysis
7. Etc.

Stakeholders

- BEIS colleagues
- Delivery partner
- Applicants
 - Successful (projects)
 - Unsuccessful
- Non-applicants
 - Who expressed interest but did not apply
 - Who did not express interest
- Projects (successful applicants)
 - Sponsors
 - Owners/operators
- Investors
- Supply chain representatives
- Customers

Other

- Consumers associations
- Resident associations
- Environmental associations
- Experts/ Academics
- Etc.

Evaluation contractor is expected to develop a stakeholders map

Methods by Phases

Methods by phases

Phases 1 and 2
£150,000

1. Scoping and Theory of Change

(10 expected interviews/workshops)

- Desk-based research
- Literature review
- Stakeholder mapping
- Interviews with key stakeholders
- Workshops with BEIS policy colleagues and the delivery partner
- Review of Cost-Benefit model
- Review of monitoring templates

April - June 2022

2.1. Process Evaluation – Transition Scheme

(20 expected interviews/workshops)

- Interviews with BEIS colleagues
- Interviews with applicants
 - Successful / unsuccessful
 - Non-applicants
- Analysis of data from
 - Applications
 - Projects monitoring

June 2022 - February 2023

2.2. Impact Evaluation – Transition Scheme

(30 expected interviews/workshops)

- Interviews with BEIS colleagues
- Interviews with key stakeholders
- Interviews with applicants
 - Successful / unsuccessful
 - Non-applicants
- Analysis of data from
 - Applications
 - Projects monitoring

June 2022 - February 2023

Methods by phases

Phase 3
£300,000

3.1. Interim Process Evaluation – Main Scheme

(50 expected interviews/workshops)

- Interviews with BEIS colleagues
- Interviews with delivery partner
- Interviews with applicants
 - Successful / unsuccessful
 - Non-applicants
- Analysis of data from
 - Applications
 - Projects monitoring

March 2023 – February 2024

3.2. Interim Impact Evaluation – Main Scheme

(75 expected interviews/workshops)

- Interviews with BEIS colleagues
- Interviews with the delivery partner
- Interviews with projects – sponsors and owners/operators
- Interviews with investors and supply chain representatives
- Interviews with other stakeholders
- Analysis of data from projects monitoring
- **Qualitative comparative analysis**
- **Case studies (time 1)**
- **Media analysis**

March 2023 – February 2024

3.3. Interim VfM Evaluation – Main Scheme

- Economic CBA modelling
- Aggregation of application and monitoring data, wider/secondary data where available

March 2023 – February 2024

Methods by phases

Phase 4
£400,000

4.1. Final Process Evaluation – Whole Scheme

(50 expected interviews/workshops)

- Interviews with BEIS colleagues
- Interviews with delivery partner
- Interviews with applicants
 - Successful / unsuccessful
 - Non-applicants
- Analysis of data from
 - Applications
 - Projects monitoring

March 2024 – March 2026

4.2. Final Impact Evaluation – Whole Scheme

(75 expected interviews/workshops)

- Interviews with BEIS colleagues
- Interviews with the delivery partner
- Interviews with projects – sponsors and owners/operators
- Interviews with investors and supply chain representatives
- Interviews with other stakeholders
- **Qualitative comparative analysis**
- **Regression discontinuity design**
- **Process tracing**
- **Case studies (time 2)**
- **Media analysis**

March 2024 – March 2027

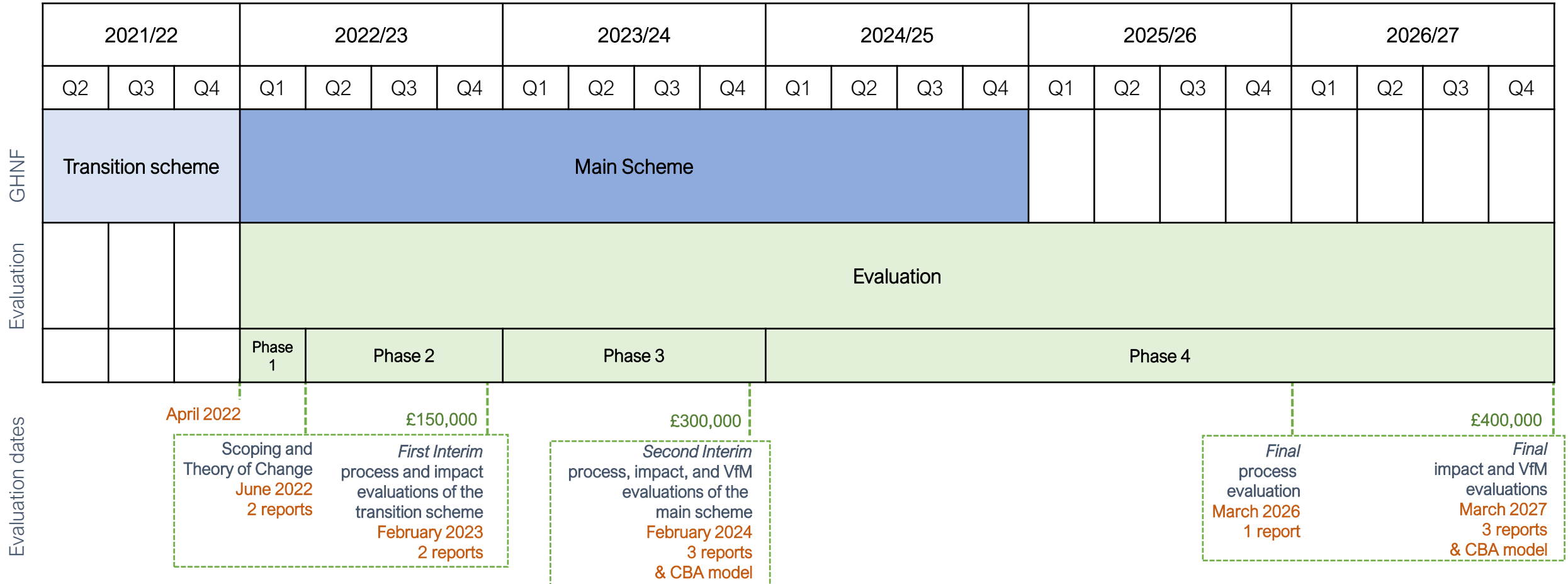
4.3. Final VfM Evaluation – Whole Scheme

- Updating Economic CBA modelling if necessary
- Aggregation of application and monitoring data, wider/secondary data
- Exploration of non-monetised costs and benefits (consumer satisfaction or detriment, or wider market costs and benefits)

March 2024 – March 2027

Timeline & Deliverables

Timeline & Deliverables



Q&A