

Regional Evidence Base on Infrastructure
Technical Advisory Group – 18 June 2009

Strategic Physical Infrastructure
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Local Government
Yorkshire and
Humber



Overview

- What is Physical Infrastructure?
- What is Strategic Physical Infrastructure?
- Who are the providers we need to engage?
- What is our current Regional Evidence Base? (i.e. maps)
- What further work will/needs to be done? (i.e. gaps)



1. What is Physical Infrastructure?

- NB: sometimes called critical or “grey” infrastructure
- PAS: energy; water/drainage; waste; telecoms; public realm; historic legacy
- Not in PAS: minerals sites
- Approach: consider minerals sites as PI; consider public realm (street furniture) and historic legacy (listed buildings) are SI, not PI



2. What is Strategic Physical Infrastructure?

- PAS: centralised power generation; gas/electricity transmission/distribution system (see table); renewable energy; wind power; water supply; waste water; flood defences; broadband; waste collection/disposal
- Not in PAS: minerals sites



2a. What is Strategic Physical Infrastructure?

System Type	Operating Voltage	Role in Network
NGET Systems	400KV or 275KV	Connects power stations to National Grid.
132kV	132 kV	Serves in a distribution role between the NGET system (at 400kV or 275kV) and the 33kV / 66kV EHV systems. In exceptional circumstances direct 132/11kV transformation may be justified.
Extra High Voltage (EHV)	66kV and 33kV	Serve in a distribution role between 132kV or NGET systems and the 11kV system. Historically, the 66kV system is overhead lines between urban areas and the 33kV systems are underground within urban areas.
High Voltage (HV)	11kV and 6.6kV systems	Distribution of electricity into and around local urban and rural areas. The 6.6kV system is limited, and is a legacy in older industrial areas, in particular waterside / dockside locations. The 6.6kV system will not be developed further and will be phased out.



3. Who are the providers and how do they plan?

- Who/where are they?
- How much are they engaged?
- What is their level of engagement?



3a. Who are the providers and how do they plan?

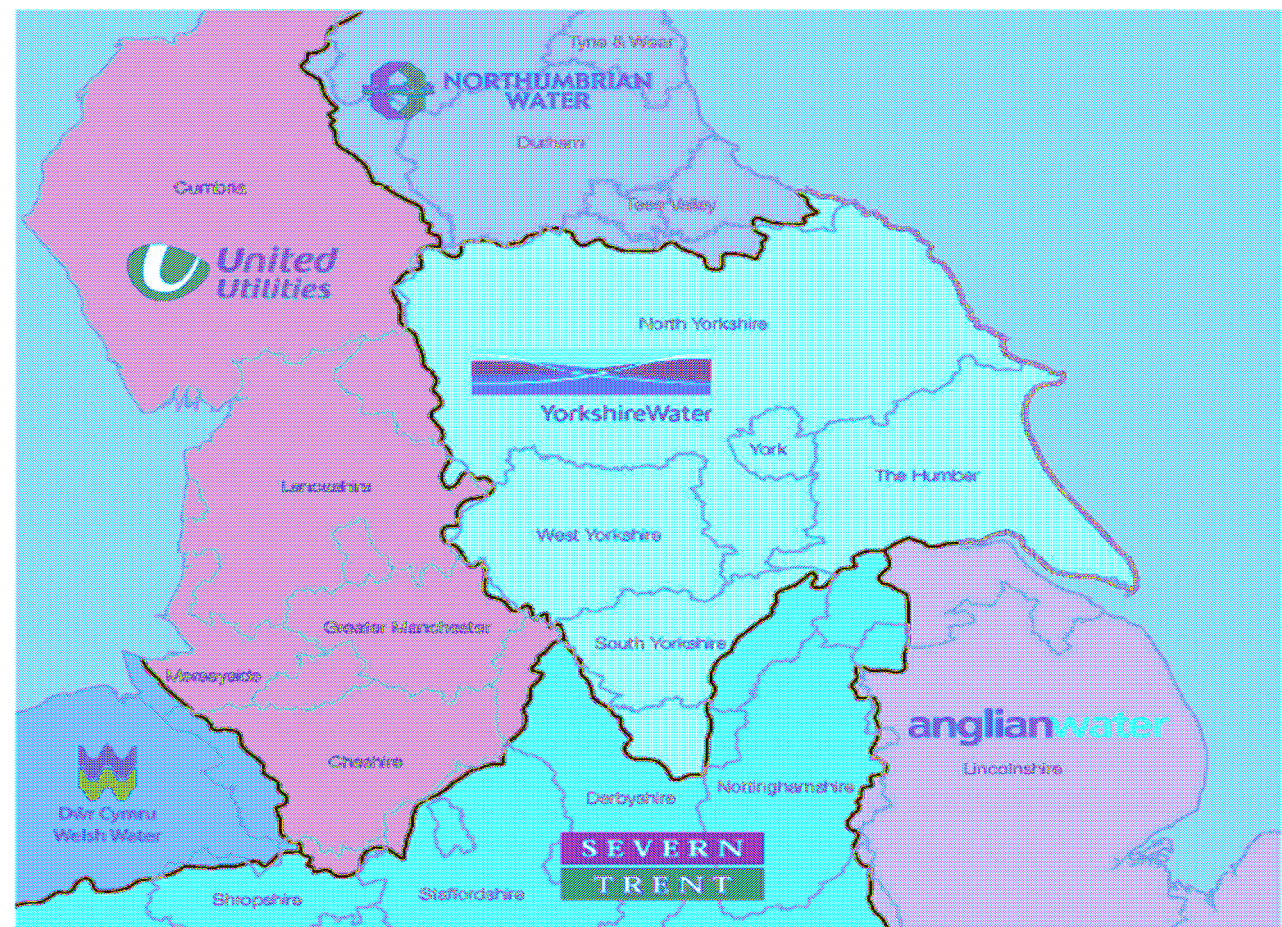
Who/where are they?

- National: National Grid; BT
- Catchment-based: Environment Agency (N-East region; E-Midlands region)
- Other: varies (i.e. see maps for Yorkshire Water/Anglian Water, CE Electric, Northern Gas Networks)

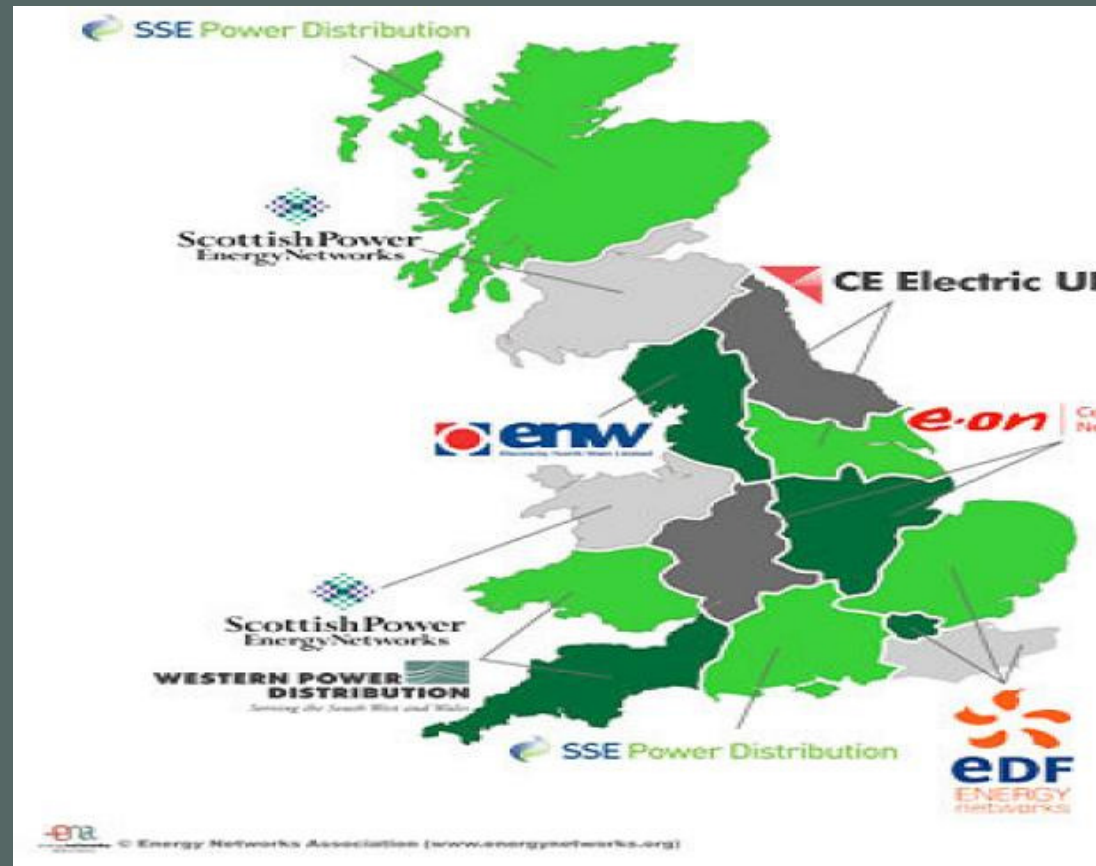


3b. Who are the providers and how do they plan?

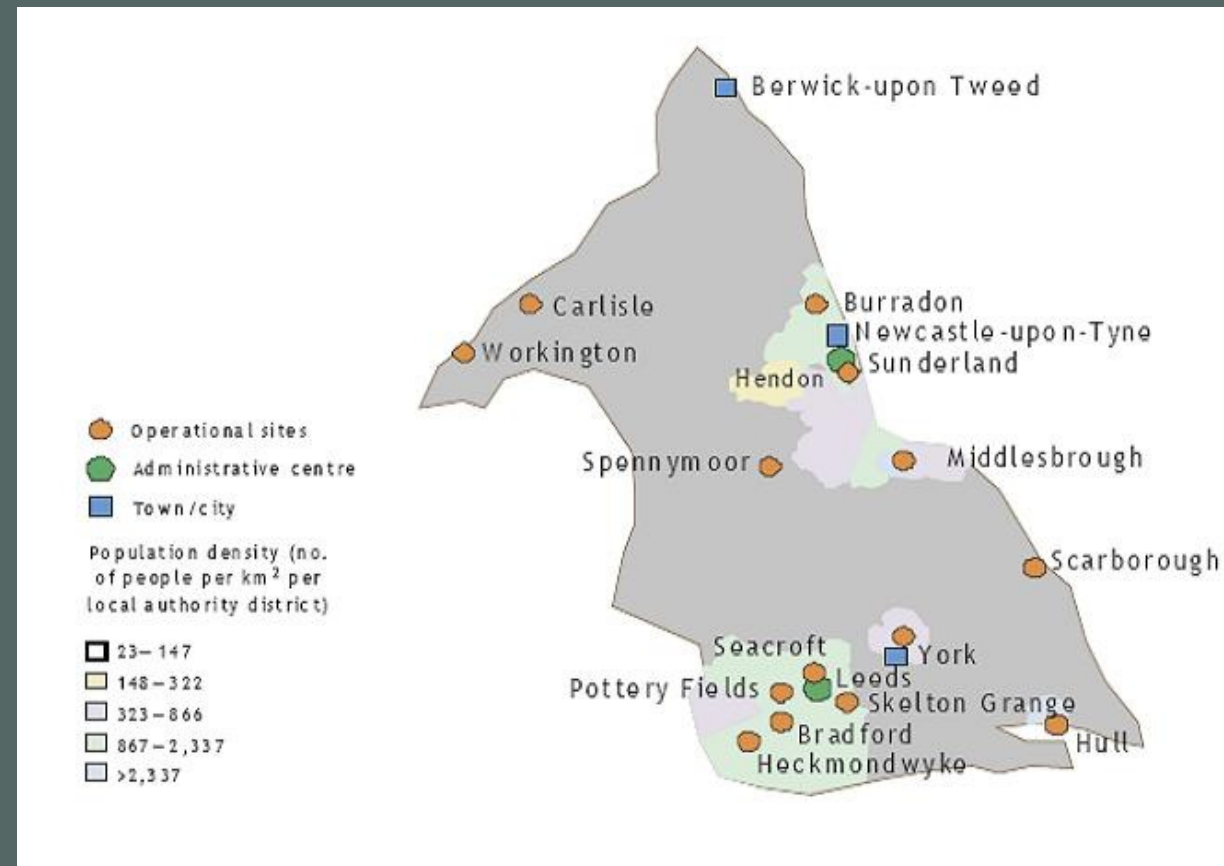
Figure 3.1 Water Companies Serving in the North



3c. Who are the providers and how do they plan?



3d. Who are the providers and how do they plan?



3e. Who are the providers and how do they plan?

How do they plan?

- Private sector: 5-year PI investment programmes scrutinised/approved by regulator (and Environment Agency re water/wastewater)
- Public sector: Environment Agency long-term plan approved by Regional Flood Defence Committee



3f. Who are the providers and how do they plan?

- What is their level of engagement in RSS (IRS)?
- Fully engaged: Environment Agency
- Almost there: Anglian Water; RTAB
- Getting there: Northern Grid; Northern Gas Networks; BT, CE Electric, Yorkshire Water

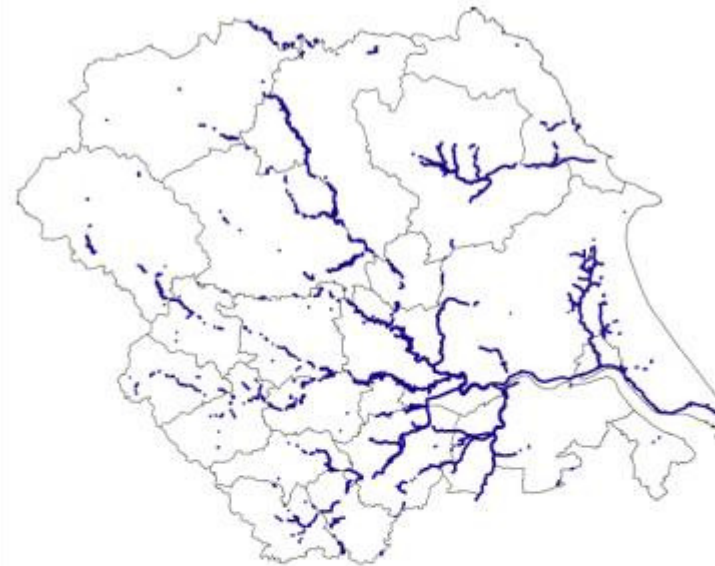


4. What is our Regional Evidence Base?

- Identification of current strategic PI assets/networks on maps (i.e. Environment Agency flood defences; Yorkshire Water supply grid; National Grid; CE Electric DNO; Northern Gas Networks DNO; waste disposal sites)



4a. What is our current Regional Evidence Base?



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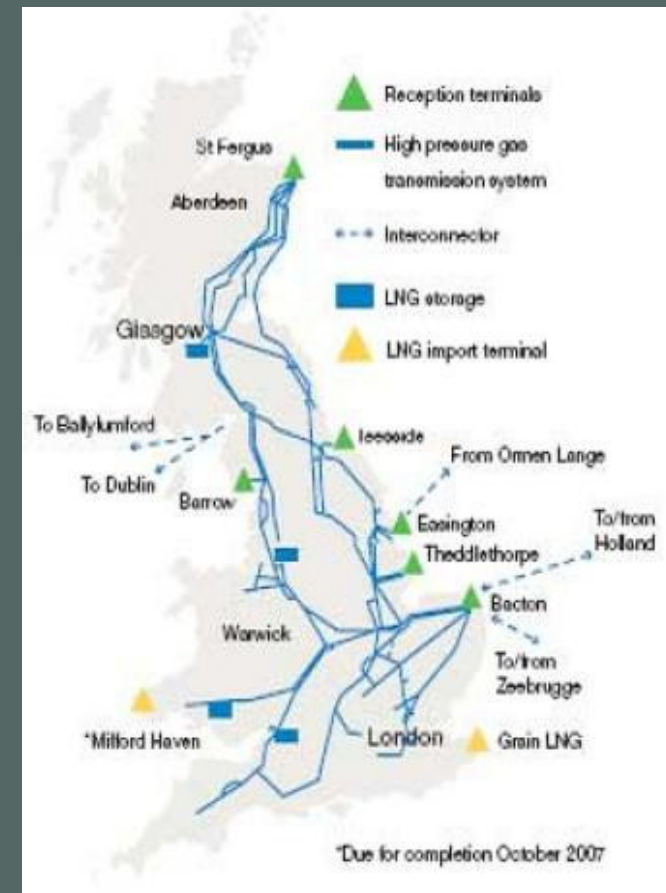


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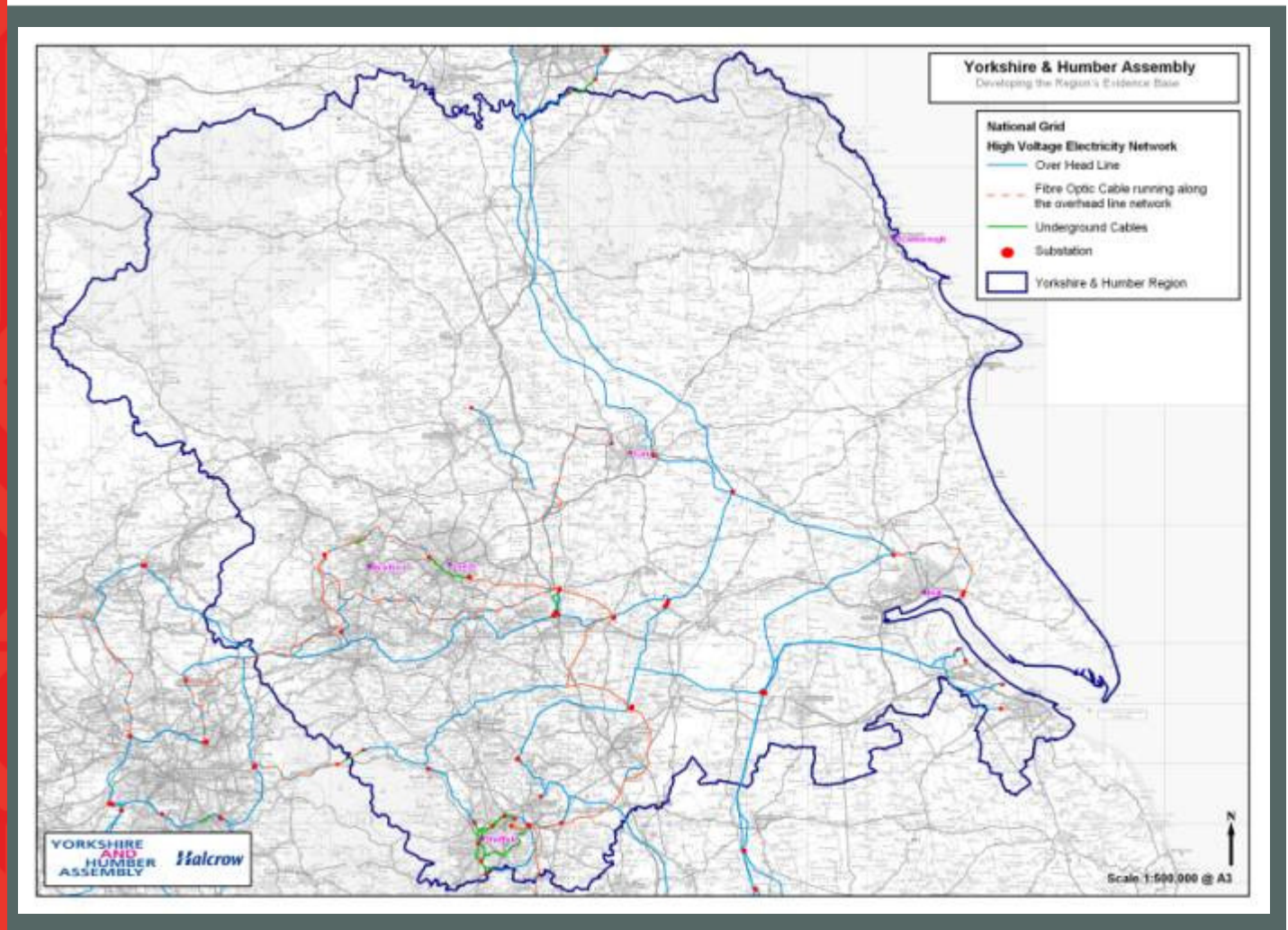


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4c. What is our current Regional Evidence Base?



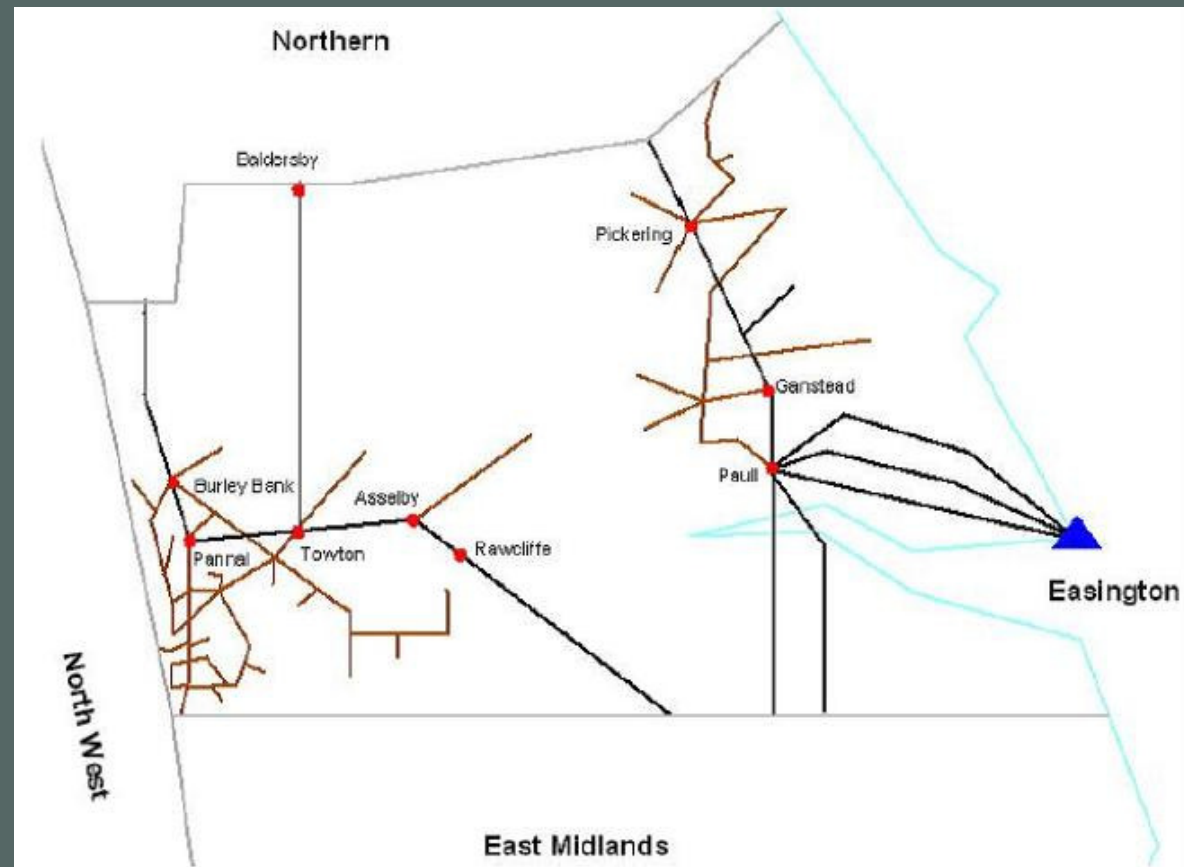
4d. What is our current Regional Evidence Base?



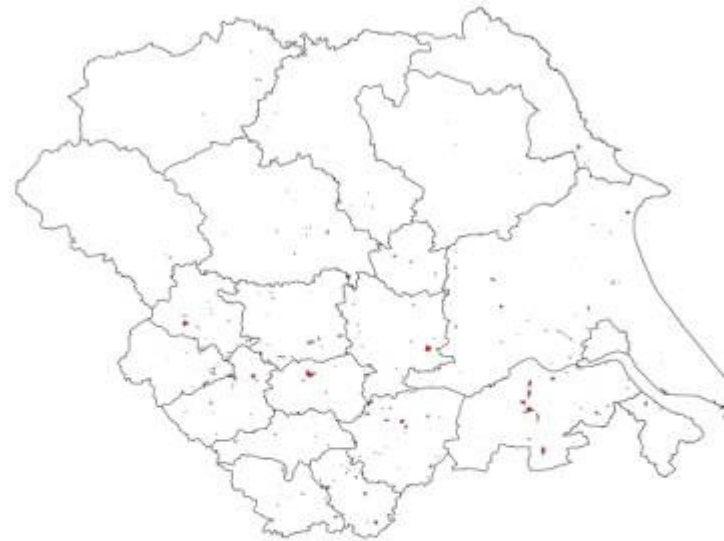
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4e. What is our current Regional Evidence Base?



4f. What is our current Regional Evidence Base?



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4g. What is our current Regional Evidence Base?

- Assessment of infrastructure capacity (i.e. Water Framework Directive maps; Catchment Flood Risk Management maps; CAS; Sub Regional Renewable Energy Assessment and Targets Study; broadband capacity)

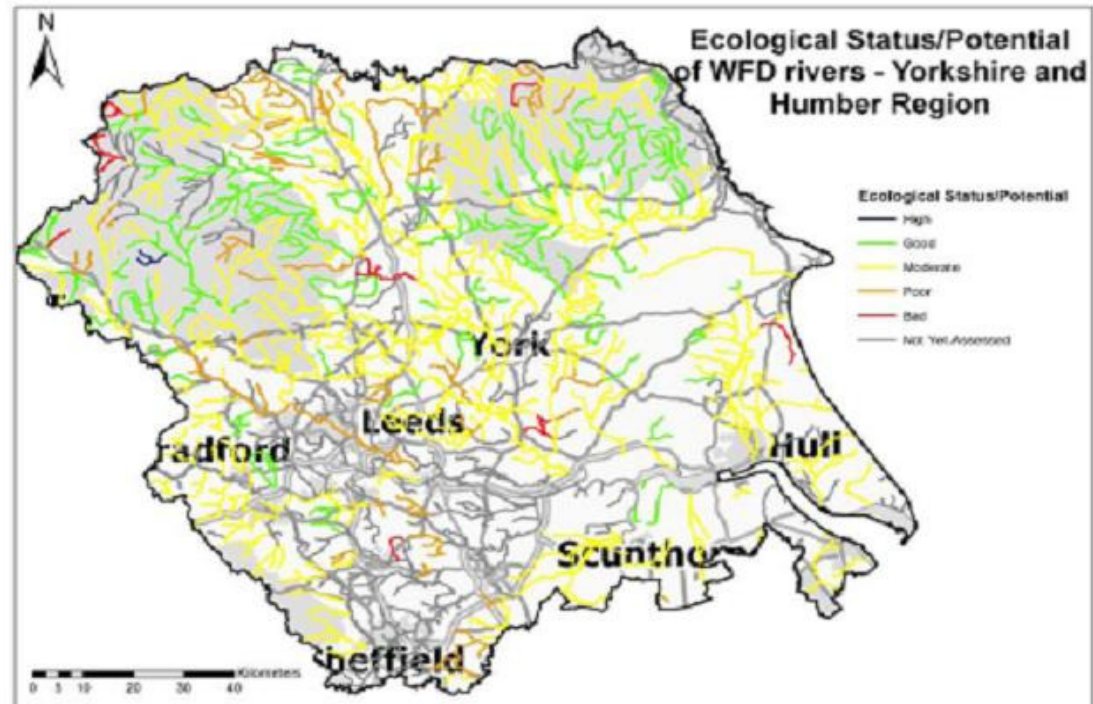


4h. What is our current Regional Evidence Base?

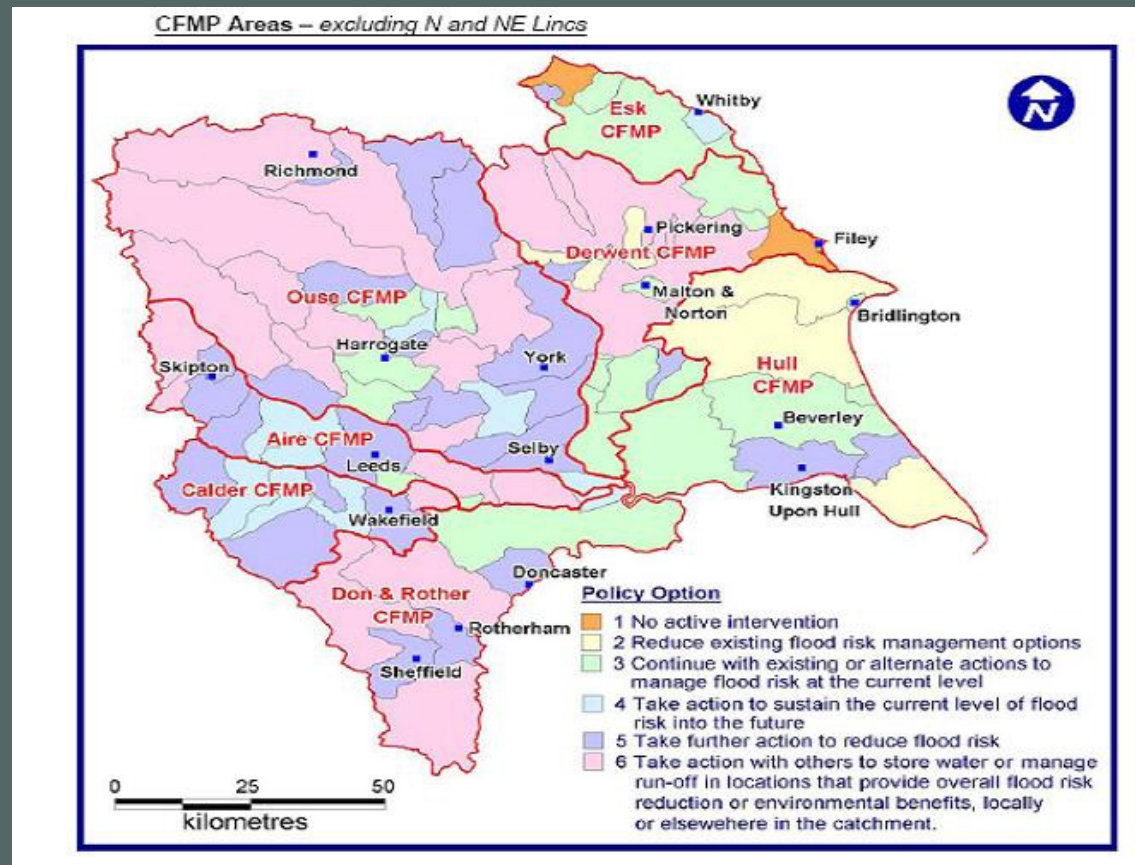


4i. What is our current Regional Evidence Base?

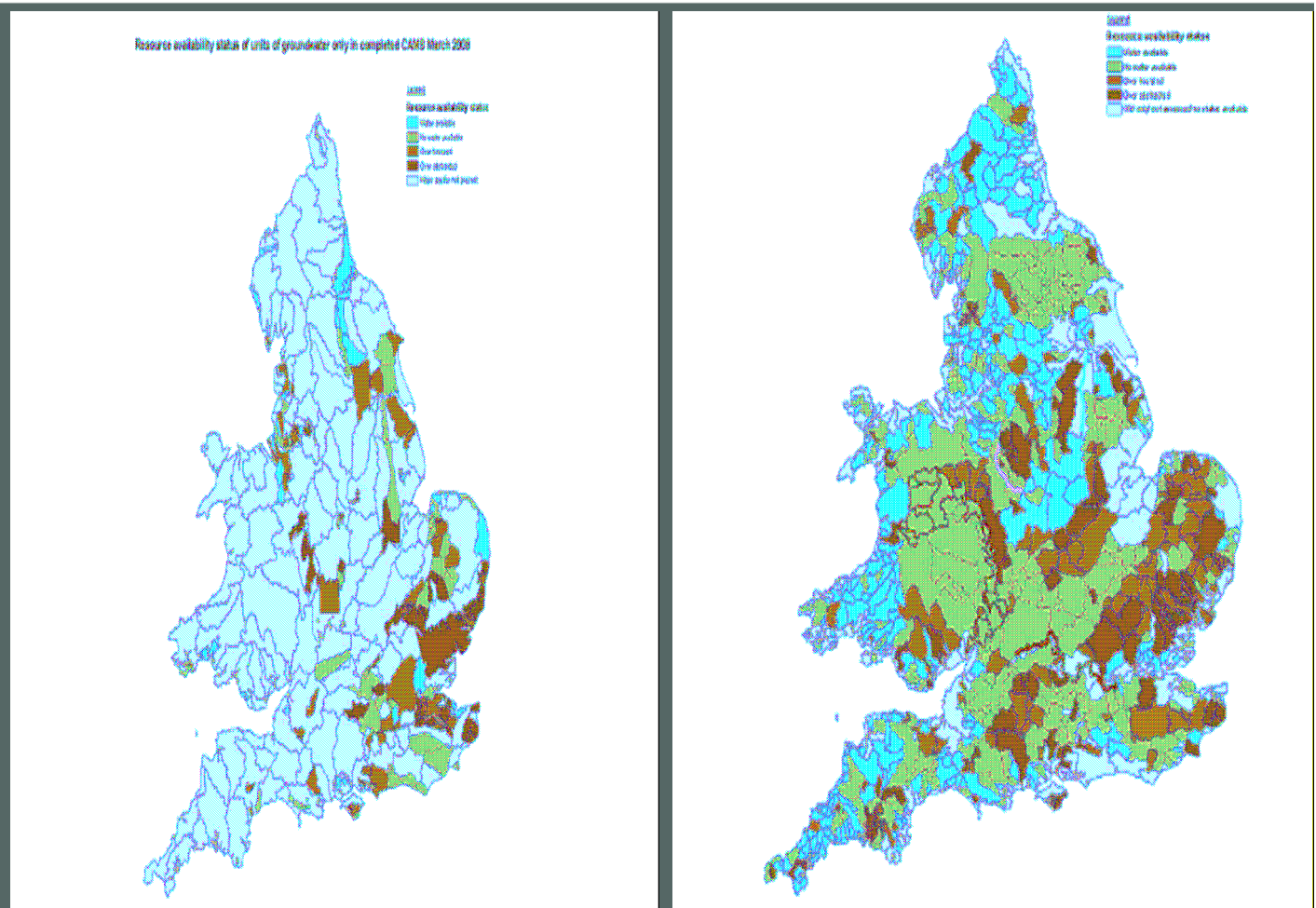
Map 1 Current Ecological status or potential for rivers



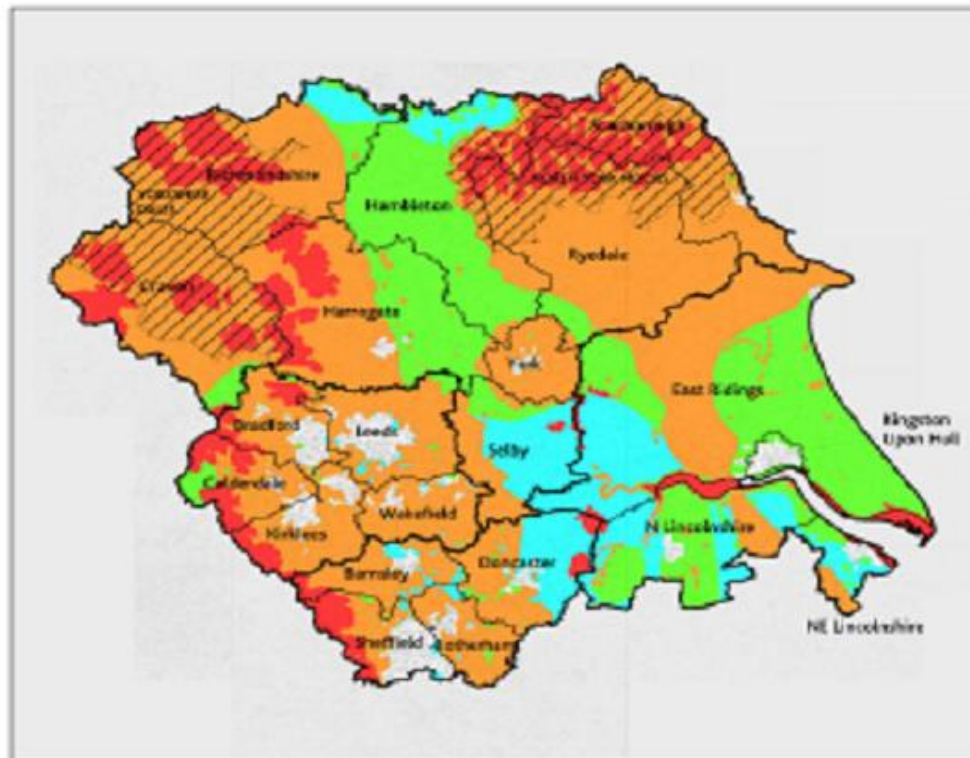
4j. What is our current Regional Evidence Base?



4k. What is our current Regional Evidence Base?



4I. What is our current Regional Evidence Base?

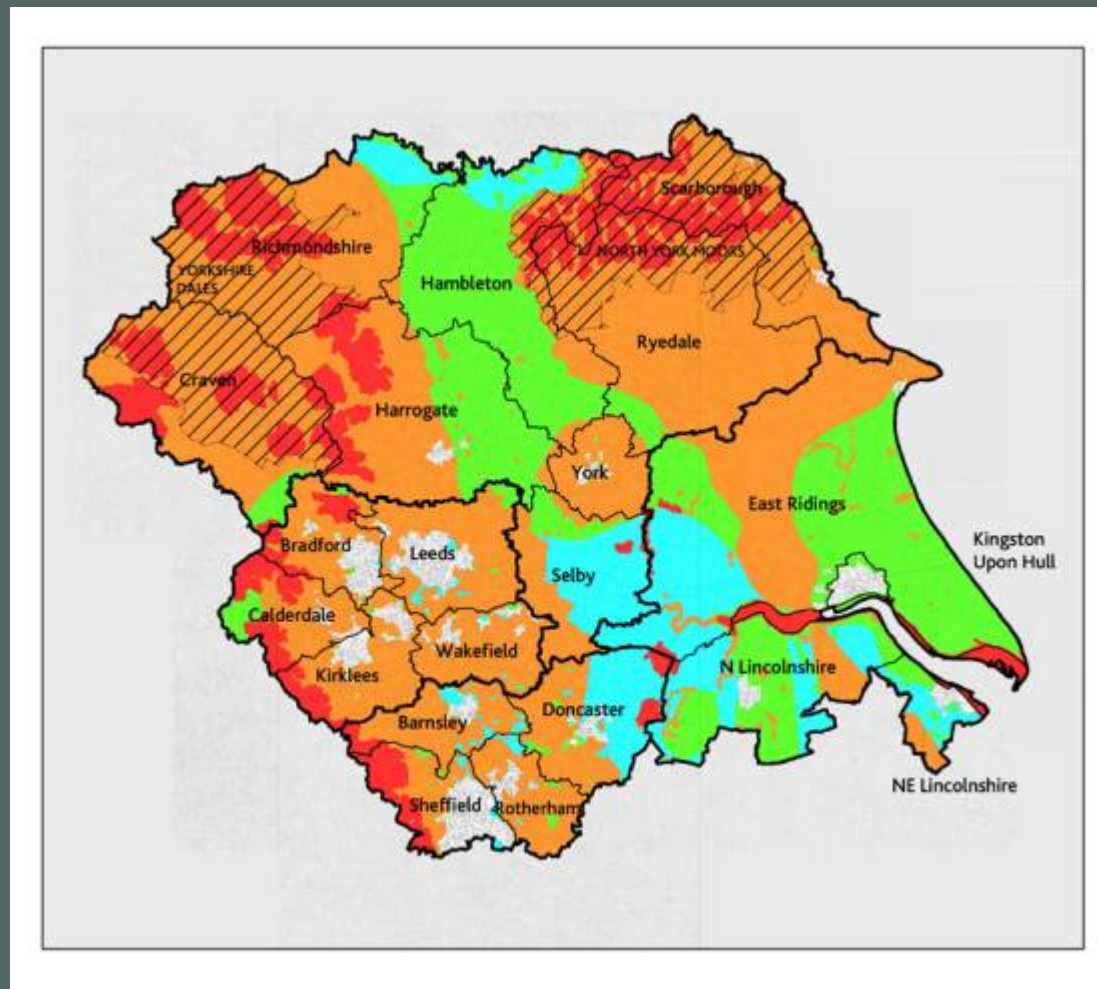


4n. What is our current Regional Evidence Base?

- Strategic Interventions (i.e. Sub Regional Renewable Energy Assessment and Targets Study)



4m. What is our current Regional Evidence Base?



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5. What further work needs to be done?

- Area Maps to be developed (Northern Gas Networks)
- Asset/ network maps to be developed (e.g. electricity hierarchy? Sub –regional composite infrastructure maps?)
- Asset/network maps that still need to be obtained: AW supply grid; Anglian Water/Yorkshire Water waste water treatment works; power stations; wind farms; waste collection facilities; telecoms; minerals sites
- Capacity assessment gaps: general (objective capacity/thresholds; utilities' views on draft summary of hotspots/pinch-points)
- Interventions (for IRS to prescribe): all
- Strategic alignment: influencing utilities' infrastructure investment plans/programmes to ensure better fit with RSS/IRS
- Get the evidence base website live (inc. Integrated and Green Infrastructure Studies) !!!
- Other (engagement with utilities)

