Cultana Pumped Hydro Project

Community Briefing
10 August 2017

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Project rationale

- South Australia has high penetration of renewables but grid reliability of energy supply has suffered post-Northern retirement
- Four potential solutions:
  - Interconnectors to other states
  - New thermal generation (e.g. gas)
  - Batteries
  - Pumped Hydro
- Pumped hydro enables us to *store energy* – for use at times when electricity generation levels are low. stability

Pumped hydro – what is it?

Tumut 3, Snowy Mountains, Australia
1650 MW
Commissioned 1973
151m rated head
Freshwater

Yanburu, Okinawa, Japan
30 MW, 6 hr storage
Commissioned 1999
136m rated head
Seawater

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Project summary and status

- In early 2017, the Australian Renewable Energy Agency (ARENA) awarded $450,000 for a study into a new energy storage project using sea water for pumped hydro.
- The project partners - EnergyAustralia, Arup Engineering and the Melbourne Energy Institute - are currently investigating a potential site near Port Augusta
- The project is in its early stages. This is called the Concept phase.
- Projects of this size and complexity must pass a number of milestones before detailed design and construction can commence.

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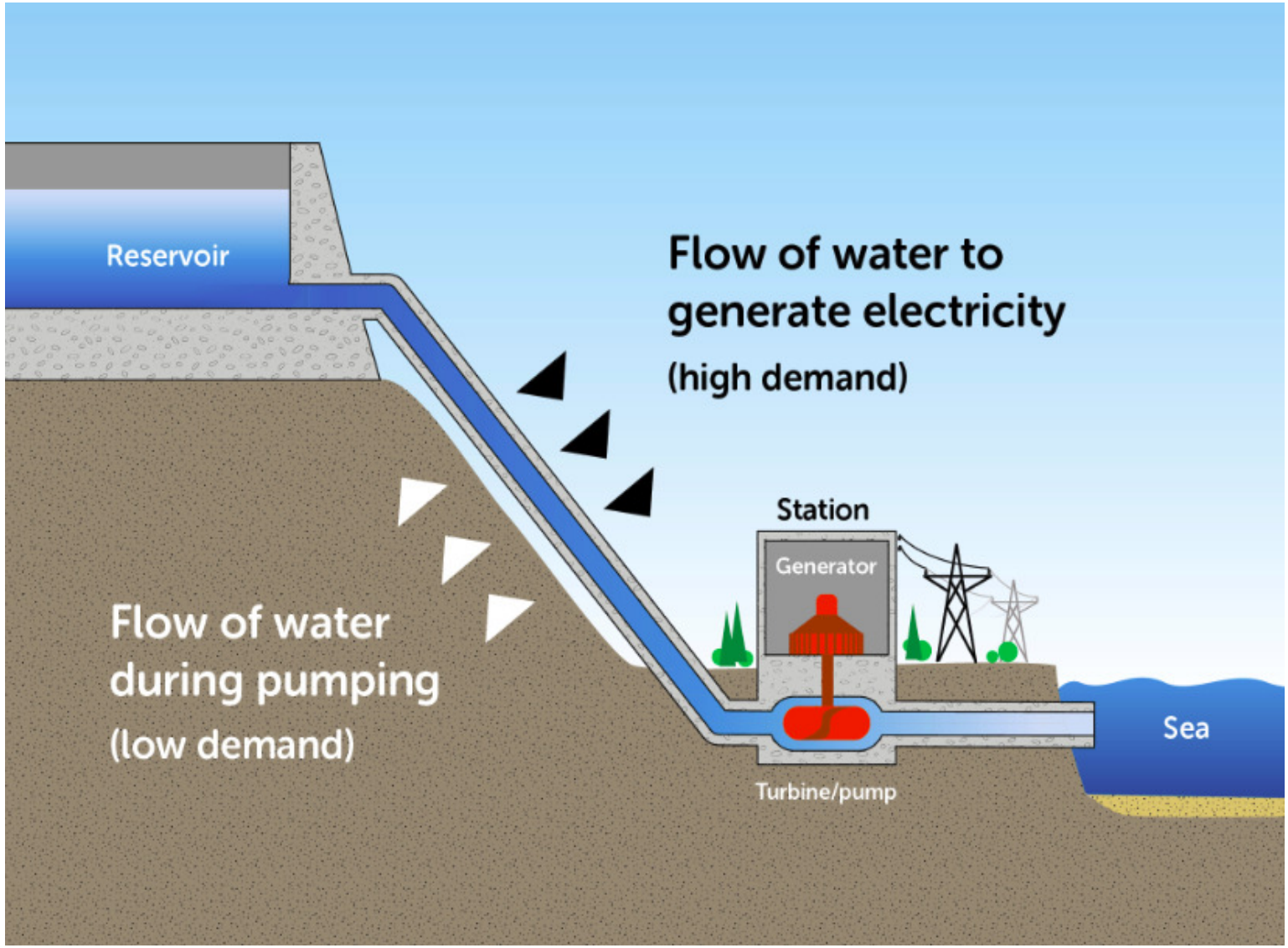
Seawater Pumped hydro – how does it work?



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Project Location

- For seawater pumped hydro project to operate effectively, there needs to be:
  - Large difference in elevation;
  - Close to the coast;
  - Close to transmission lines; and
  - Access to land with minimal environmental and social barriers
- ARUP and MEI undertook a study in 2014 to identify potential these sites; 5 of which were in South Australia
- The consortium has recommended the site at Cultana as the most prospective

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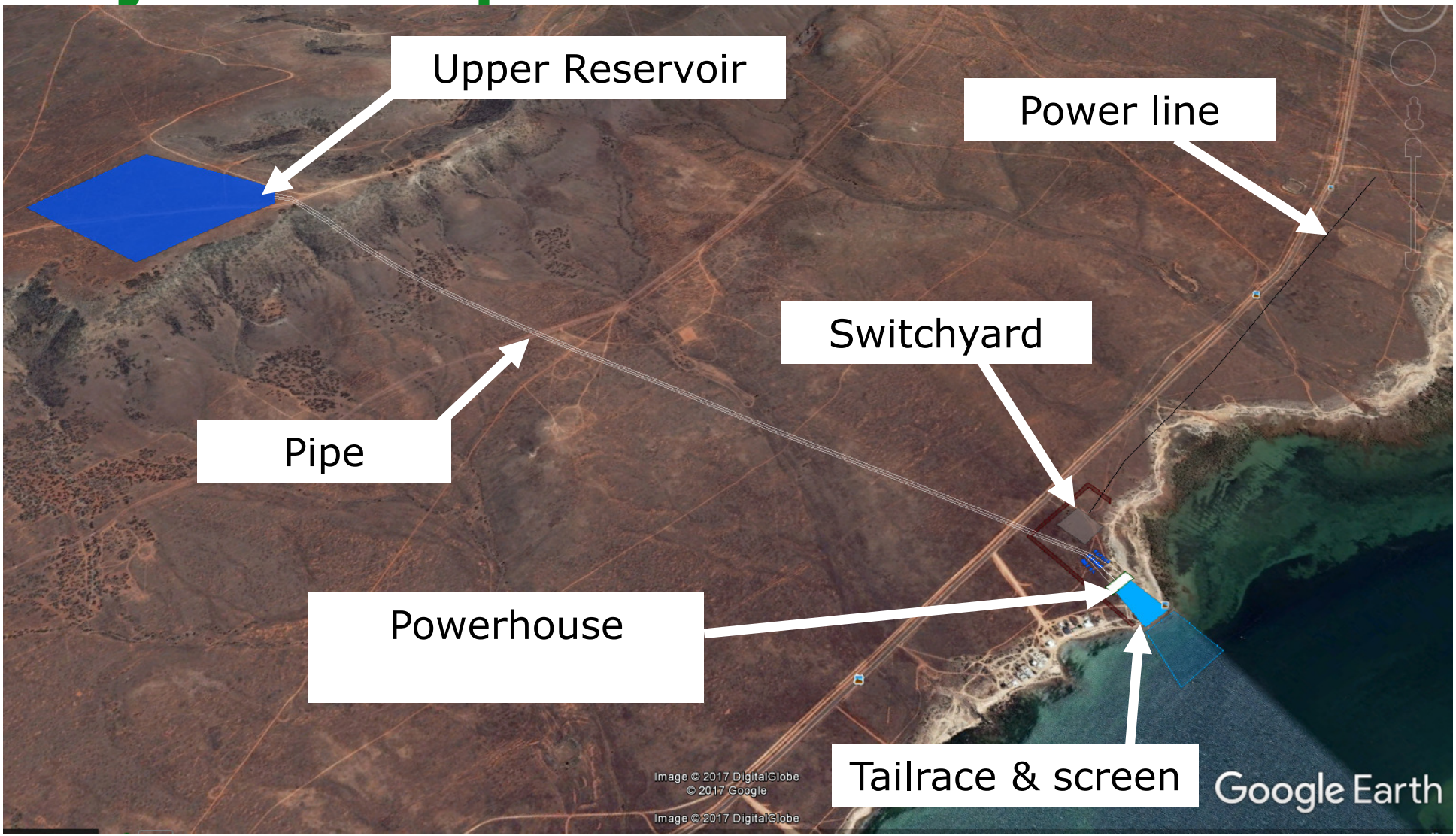
Project Concept



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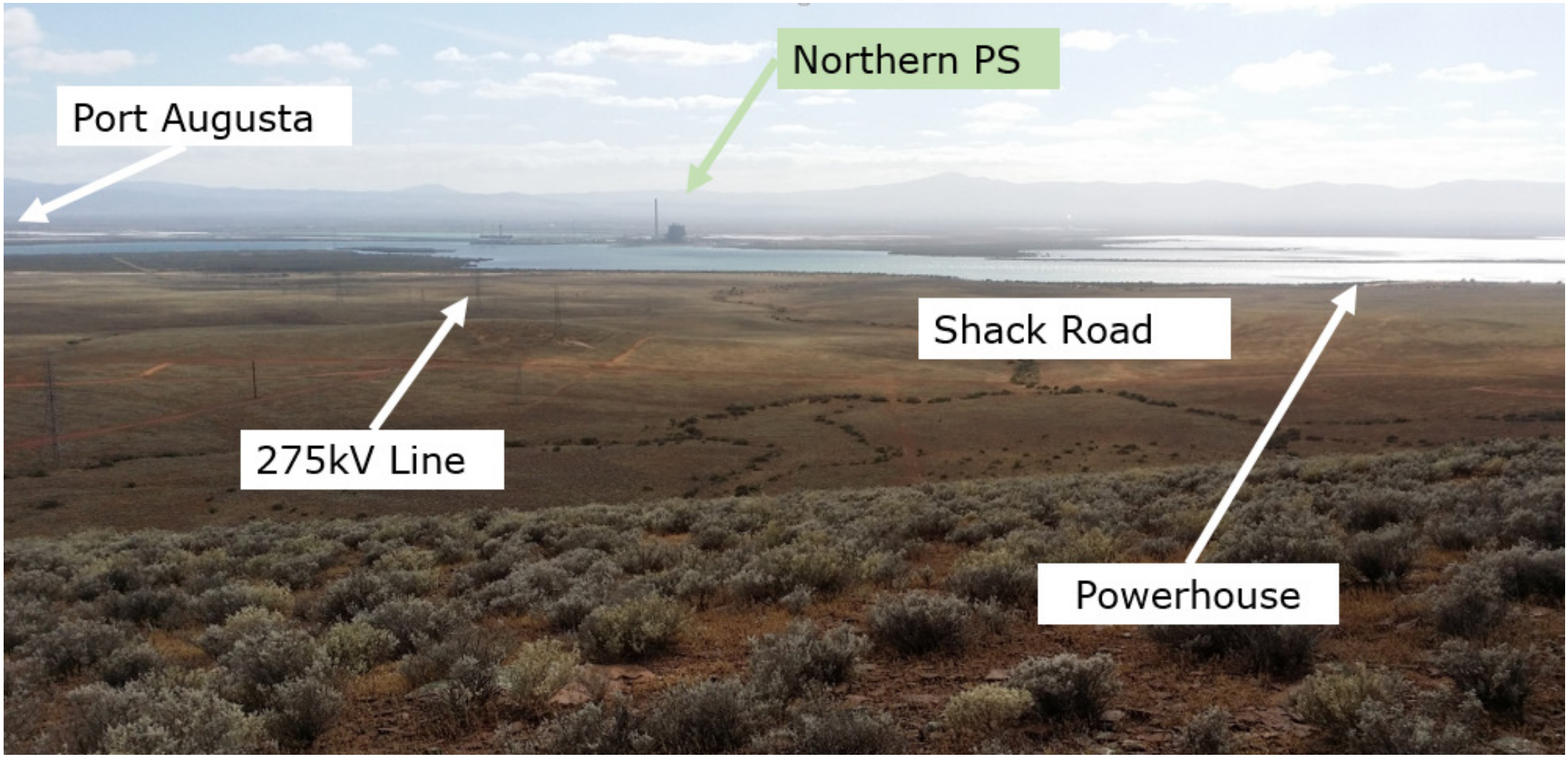
View from proposed reservoir site



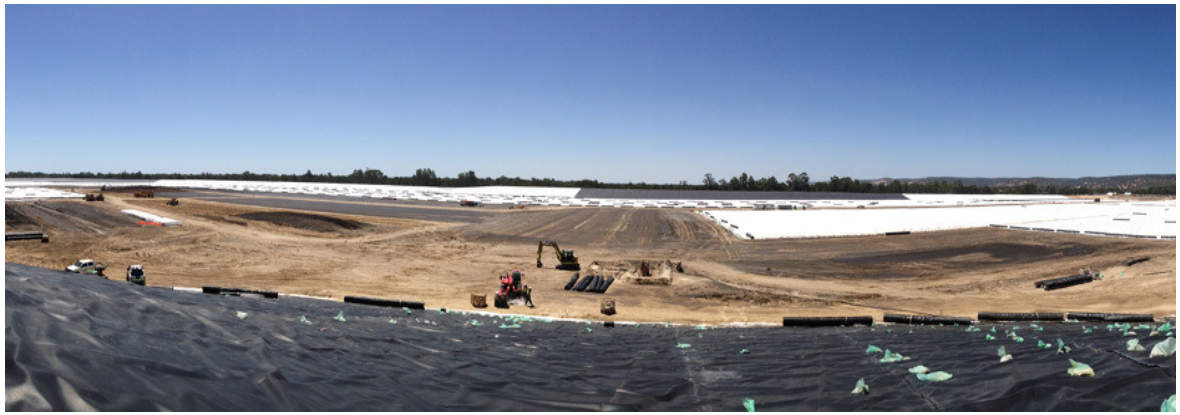
Project Concept









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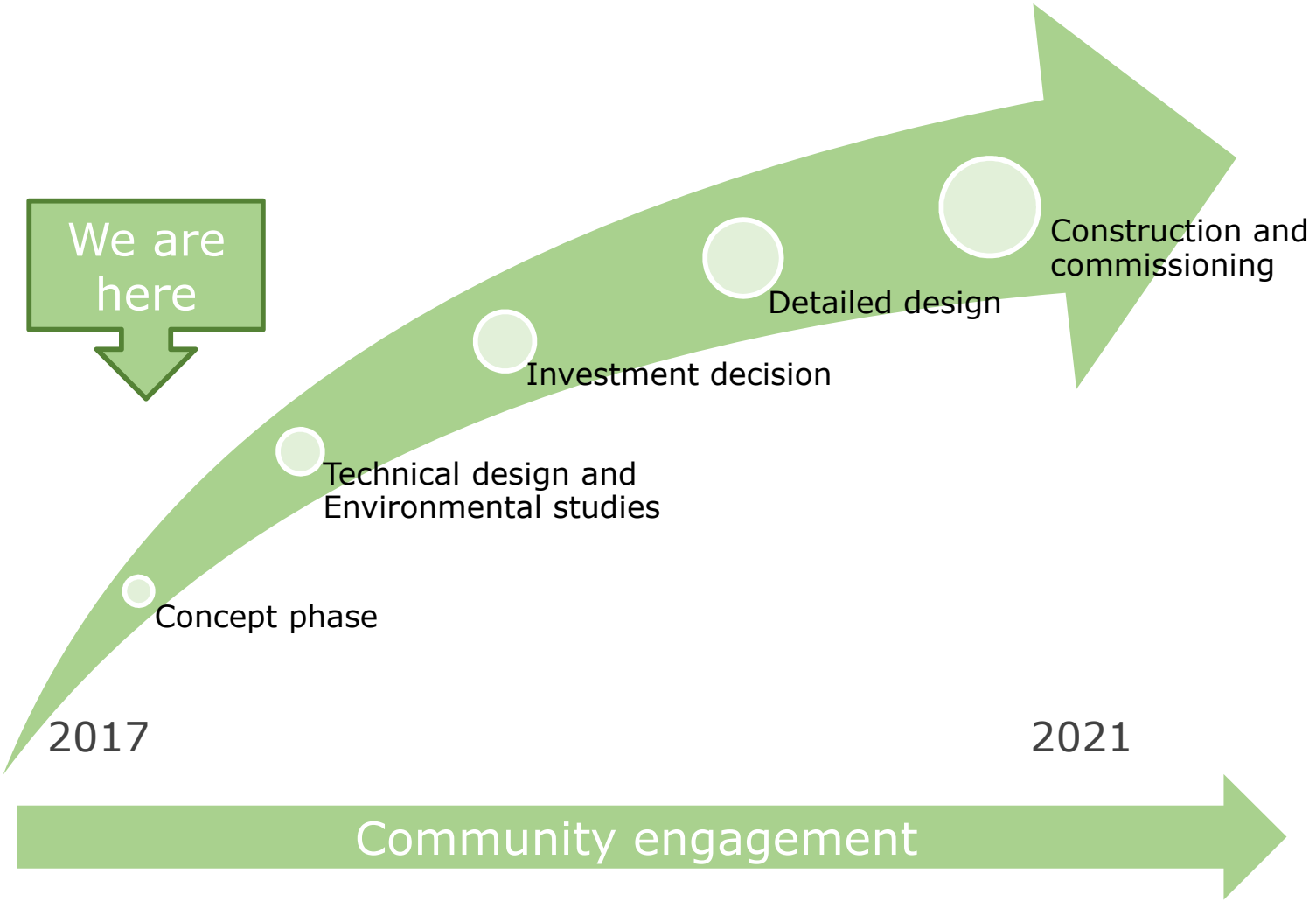
Project Development Process



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Questions?

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