

Grid Development Strategy Transmission 2040 - Overview

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8 September 2008

TRANSPower



Objective

Form a long term National Grid development strategy taking into account:

- New Zealand's future social, environmental and economic requirements; and
- long-term technology trends.



Who benefits?

Transpower	Provides a long term plan for the grid on which the short term/staged grid upgrades are layered Prepares for long term investment
Electricity Commission	Provides an avenue for assessing the strategic benefits of high capacity/long lasting assets
Generators	Provides a certainty for refurbishing of existing assets/planning of new generation developments
Distributors	Provides a long term view of the grid and enables synergetic development of the distribution grid
Retail	Provides long term certainty of energy supply
Consumers	Provides more efficient investment decisions over the longer term.
Communities	Provides more certainty around supply security/ line routes/grid development
Government	Provides information on how the grid may support policy measures

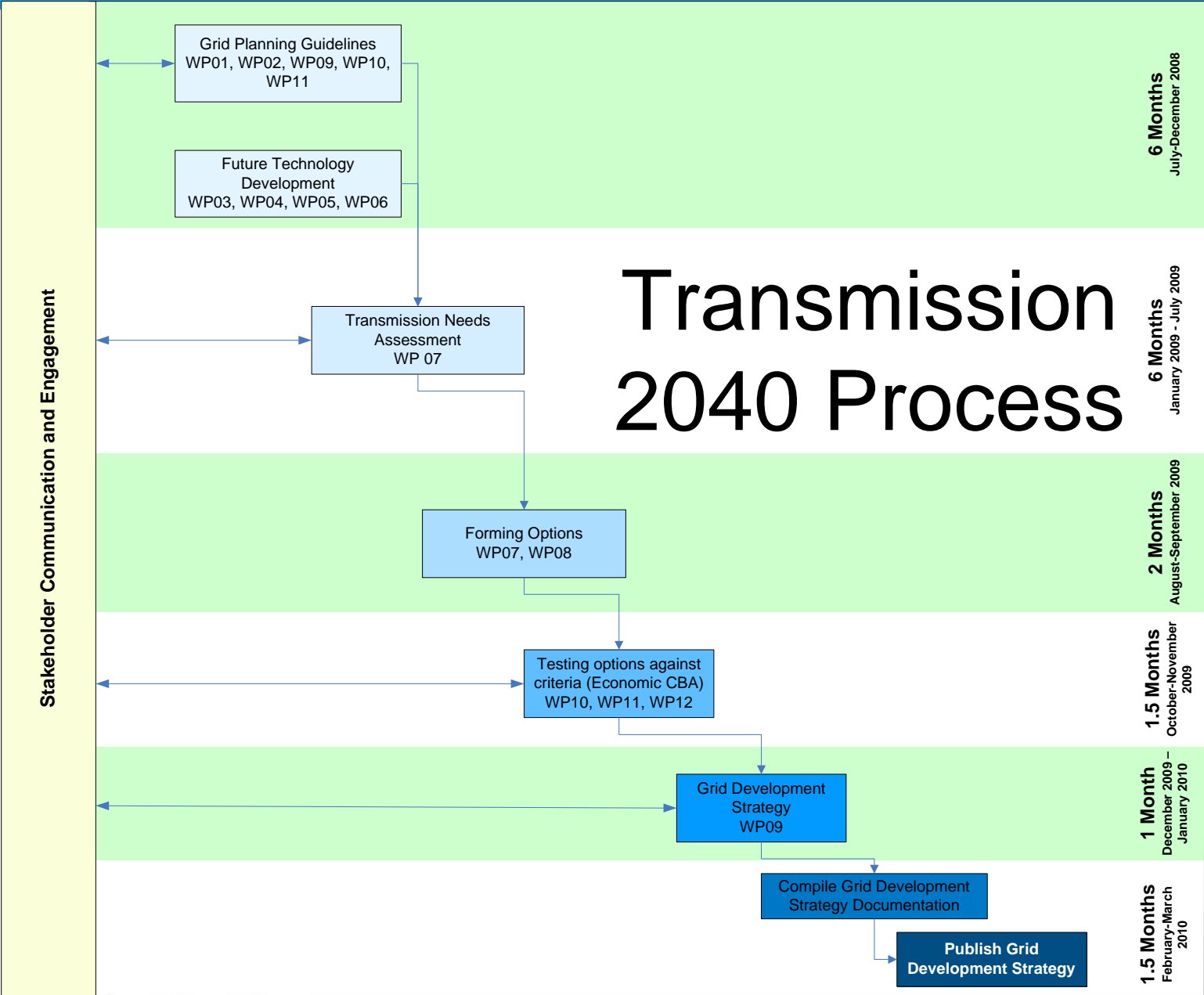


T2040 - outcomes

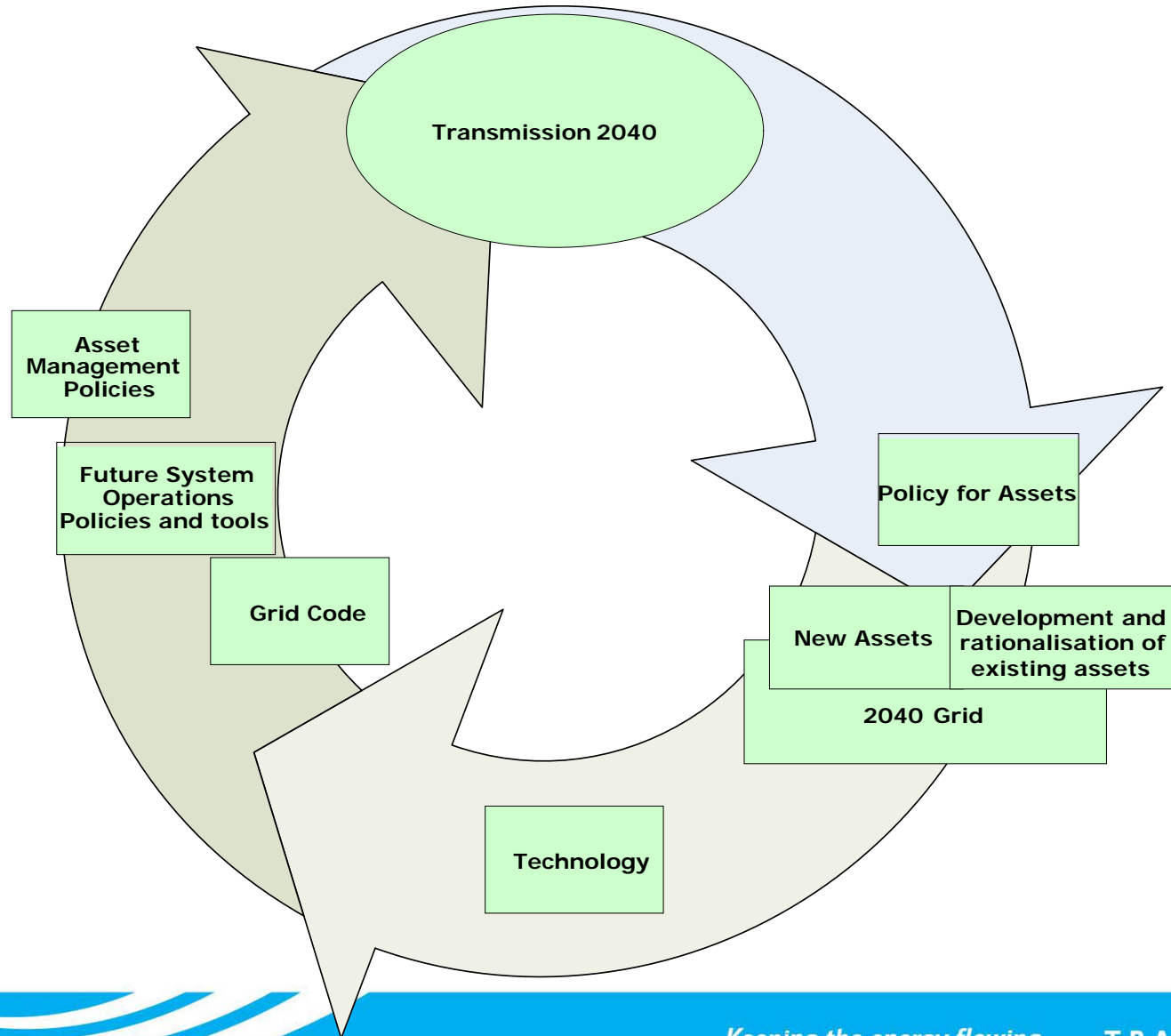
- Sets Transpower's direction for investment for next 30-40 years.
- Current GDS is now over five years old, and no longer reflects the latest information
- Transpower is inviting input from key stakeholders
- T2040 outlook is about 40 years



Transmission 2040 Process



Development cycle



Contents of the T2040 Document

The T2040 document will provide a roadmap to the future

Chapter	Description
1	Introduction
2	Demand and Generation Scenarios
3	Technology
4	Transmission Needs
5	Maximising the Utilisation of Existing Assets
6	Maintaining and Operating the Future Grid
7	Looking after Societies and Environment
8	Our resources – Our People
9	Conclusion

Year	2009-2020	2020-2030	2030-2050
	Firm	Fluid	Fuzzy



Transmission 2040 Process

- The 'Transmission 2040' process is likely to take about 18 months, culminating in a final strategy in about 2010
- It is a significant process, involving a a number of work packages.



Transmission 2040 – Work Packages (1-6)

Work Package #	Title	Description
1	Generation and Demand Scenarios	...a mix of scenario development and forecasting to determine a set of generation and demand futures and quantitative data for each of the next 30-40 years.
2	Grid Planning Guidelines	...defines the planning guidelines, criteria and assumptions to enable planning studies to be performed.
3	Asset Reliability	...forecasts asset condition and existing asset make-up against customer reliability requirements and target reliabilities
4	HVAC Line and Substation Strategy	...determines the appropriate strategy for upgrading/building or decommissioning of GXP's and transmission lines together with the appropriate transmission technology roadmap
5	HVDC Transmission Strategy	...determines the strategic use of HVDC for enhancing transmission capacity over the next 30-40 years.
6	Grid Communications Control and Protection Technology	...determines the future use and development of protection and automation technology for economically enhancing grid capacity



Transmission 2040 – Work Packages (7-12)

Work Package #	Title	Description
7	Grid Planning Studies	...uses the outputs from work packages 1-6 to assess the system over the 30-40 year strategy period and determine appropriate transmission options
8	Engineering Feasibility and Costing	...uses the outputs from work package 7 to determine high level costs for the transmission options
9	Transmission Solution Integration	...reviews the transmission options identified through work packages 7-8 to determine an appropriate grid development strategy for the National Grid.
10	High Level Environmental Impact Assessment	...assesses at a high level the environmental influences on transmission options as an input into work packages 7-9.
11	High Level Property Impact Assessment	...assesses at a high level the property influences on transmission options as an input into work packages 7-9.
12	Economic Benefit Assessment	...assesses from an economics perspective the transmission options identified in work package 7 to provide input into work package 9.



Interested in taking part?

- Transpower encourages its stakeholders to get involved in the process
- Register to the workgroups you are interested in using the form on www.gridnewzealand.co.nz
- Registration means you will be kept informed of documentation including:
 - consultations
 - presentations
 - draft and final documents

