

# Technology Roadmap



## What is the Roadmap?

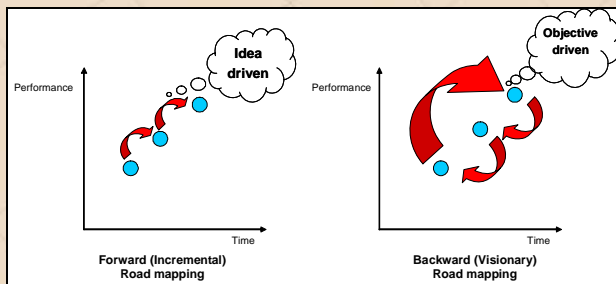
- A practical planning and communication tool where future needs (destinations) are identified and a series of possible paths (roads) defined.
- Strategic emphasis rather than tactical.
- Needs to be updated regularly to reflect changes in business environment (weather) and new emerging and enabling technologies (choice of vehicle).
- Alternative paths (highways) where they are identified should be shown.

## Benefits to Clients:

- A practical strategic planning and communication tool
- Ability to balance short term needs with long term vision
- High levels of stakeholder alignment
- Focus on critical issues and competencies.

## Approach

Roadmaps can be either forward looking (clearly articulated stepped improvements) or backwards (developed from a vision).

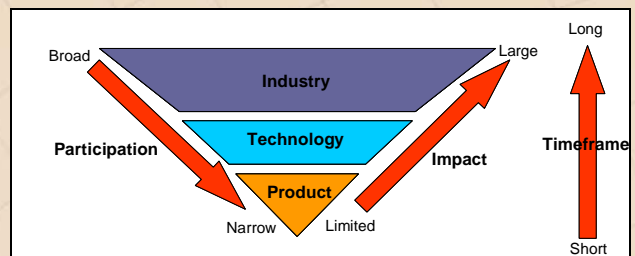


Forward roadmapping is a bottom-up approach that is driven by the availability of ideas. Using this method will drive the solutions, but may not lead in the right direction. Backward roadmapping is a top-down approach where the vision is set and the ideas are developed to achieve the vision.

In reality both methods are required: the bottom-up approach to understand where the capability will lead and the top-down to lead in the right direction.

## Stakeholder Participation

Stakeholder participation depends on the type of roadmap. Product-specific roadmaps tend to have a narrow participation, where the impact is limited and the timeframe is relatively short. However, for an industry wide roadmap the participation needs to be broad, where the impact is wide-reaching and the timeframe to be considered is significantly larger.



Source: Department of Industry, Science, and Resources Technology, Planning for Business Competitiveness: A Guide to Developing Roadmaps, Occasional paper 13

Roadmaps developed by RMDSTEM include:

- Mining Technology Roadmap for CRC Mining Technical Advisory Panel
- Social and Physical Science Roadmap for Victoria's Earth Resources Sector
- Pyrometallurgical Technology Roadmap for BHP Billiton
- Mining Technology Roadmap for WMC Resources

Unlocking the Brown Coal Resource (1 of 2)		DRAFT Commercial-in-Confidence		2008 © STEM Partnership	
	Current Status	1-5 years	5-10 years	Target	2015
<b>Existing Brown Coal</b>	Number of piloted technologies not yet commercialised.	Low cost, low GHG, high energy value product that is stable and has multiple applications.	Low cost, reliable GHG capture for gasification.	Low cost, reliable GHG capture.	Reliable infrastructure to capture GHG from brown coal.
<b>Gasification Technology</b>	Number of commercial gasifiers overseas but not grown at scale on Victorian brown coal.	Qualifiers proved at scale for Victorian brown coal.	Low cost, reliable GHG capture.	Low cost, reliable GHG capture.	Reliable infrastructure to capture GHG from brown coal.
<b>Combustion Technology</b>	Power is currently generated using less and efficient combustion technology.	Low cost, reliable GHG capture for gasification.	Low cost, reliable GHG capture.	Low cost, reliable GHG capture.	Reliable infrastructure to capture GHG from brown coal.
<b>Carbon Capture</b>	A number of technologies are available but further work is required to reduce costs for commercial scale.	Low cost, reliable GHG capture for gasification.	Low cost, reliable GHG capture.	Low cost, reliable GHG capture.	Reliable infrastructure to capture GHG from brown coal.
<b>Carbon Sequestration</b>	Done at scale in Norway. Work requires to prove in Australia and develop regulations for monitoring.	Low cost, reliable GHG capture for gasification.	Low cost, reliable GHG capture.	Low cost, reliable GHG capture.	Reliable infrastructure to capture GHG from brown coal.
<b>Alternative Coal Products</b>	Brown Coal is only used for power generation. Brown coal has other valuable properties.	Low cost, reliable GHG capture for gasification.	Low cost, reliable GHG capture.	Low cost, reliable GHG capture.	Reliable infrastructure to capture GHG from brown coal.

