



[link from short course 2 introduction]

Importantly, the infrastructure and industrial development transformation in renewable energy and battery technology development is the first economically driven strategy that has the potential to also mitigate the worst effects of climate change, because of the scale of investment and the structural downward pressure it puts on future energy costs – the primary historical driver of economic growth.

Resource jurisdictions like Western Australia are suddenly in a position to move up the value chain to conduct mineral processing and early-stage manufacturing, where the transport costs avoided, abundant, low-cost renewable energy and highly automated processing technologies enable companies to compete with counterparts in global manufacturing hubs with large, low-cost workforces.

These changes have significant implications for international and domestic patterns of trade and are already driving a race to secure access to supplies of energy metals and other critical raw materials. Settlements from small towns to major cities, industrial estates, commercial buildings and private residences, vehicles and other forms of infrastructure are now all potential energy generators and storage vessels, not just energy consumers – radically changing the function and design of energy distribution infrastructure. Tariff regimes for major international markets are already in place that tax the carbon content of imports and the price of carbon credits is skyrocketing, driving public and private investment in pursuit of market access advantages and carbon offset revenue for economies and businesses of all scales. The pace of change is fast – similar to the dot.com revolution – but the scale of change and the implications are considerably broader and deeper. No aspect of the economy will avoid the effects.

Join our panel of experts from the International Panel of Climate Change, Lithium Valley, Inc., the Kwinana Industries Council, Decarbonology and Aitken Energy for a deep dive into how government and industry are responding to these challenges and positioning the WA to grow its industrial base while decarbonising the economy. A series of individual presentations and discussions will be followed by a panel discussion with all presenters.

## Presenters

- Peter Newman, Lead Author International Panel on Climate Change Transport Section will discuss how electrification is changing the world from an infrastructure and planning perspective, including:
  - Decarbonisation drivers and mechanisms - Global context
  - Transformational effects on regions, cities, industry and infrastructure - WA context
  - Key success stories that demonstrate the opportunity and challenges - Case studies

- Colleen Yates, Chair of Lithium Valley, Inc. will discuss the global battery supply chain and how it is evolving, including:
  - Current state of play – key players and technologies
  - Emerging trends (Carbon – rapid growth companies and country sectors – policy mechanisms – investment trends)
  - Recommendations – decarbonisation strategies – policy and infrastructure – securing diverse sources of critical materials
- Chris Lund, Professor in Energy Studies and Director at Decarbonology will discuss the key players, policy mechanisms, characteristics and emerging trends of the global Net Zero market, and what this means for a lithium battery hub including:
  - *We Can't Kick the Can Down the Road or Over the Fence* – key drivers and players forcing a focus on the need for decarbonisation of the lithium value chain, starting now.
  - *You Won't Know How to get to Where you are Going until you Know Where You are* - The need for understanding and credibly reporting carbon emissions for operations and products.
  - *You Won't Manage What you Don't Manage* – The key steps to creating and implementing a credible net-zero decarbonisation strategy.
  - *The Pack is Stronger Than the Individual* – How working together a lithium battery hub can reduce the risks and capture the opportunities.
- Chris Oughton, Director of the Kwinana Industries Council will discuss the industrial ecology and competitive prerequisites for attracting investment in a battery mineral processing and manufacturing hub, including
  - What does successful industrial ecology look like and is it enough(?) - circular economy (macro) and sustainability (micro) scale characteristics
  - International competitiveness is the goal – price, quality, timeliness, green credentials
  - Application of the four dimensions of industrial symbiosis – product/by-product exchange, skilled workforce, support industries, and governance
  - Carbon reduction strategies for a complex industrial area
- Liz Aitken of Empire Carbon and Energy will discuss current WA electricity network characteristics vs. those expected to prevail in a fully distributed electricity generation network, including:
  - The current state of the WA electricity network – infrastructure, access regime and other key regulatory/policy characteristics
  - Forecasting the design of successful, fully distributed WA electricity network
  - Case studies of successful distributed networks
  - Recommended transitional steps and arrangements to ensure a smooth and rapid transition to a distributed electricity network