

Electric Vehicle Grid Integration Working Group

Workshop
Primer
Pack

DEIP

9am, 11 December 2019

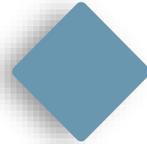
Oaks on Collins, 480 Collins Street Melbourne

Intended Workshop Outcomes



Update industry on ongoing government activities

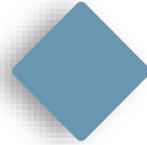
Representatives of the National EV Strategy and the COAG Transport and Infrastructure Council Low Emission Vehicle Working Group will present



Prioritise EV opportunities and issues that emerged from Discovery Phase



Agree on areas of focus for the Working Group



Establish Task Forces and foundations of 2020 Work Plan

What is the EV Grid Integration Working Group?

Problem

There is no one forum, work stream or organisation responsible, or focussed on EV grid integration

Solution

Form a Working Group to discuss the issues and opportunities associated with the transition to electrified transportation and facilitate efficient integration of EVs into existing electricity networks and markets.

Participants

The group was established in 2019 by nine organisations:

- AEMO
- AEMC
- AER
- ARENA
- Department of Environment and Energy
- Australian Energy Council
- Electric Vehicle Council
- Energy Networks Australia
- Energy Consumers Australia

Wider industry has been consulted including:

- State and Federal government departments
- NSPs
- Retailers
- Research organisations
- Peak bodies

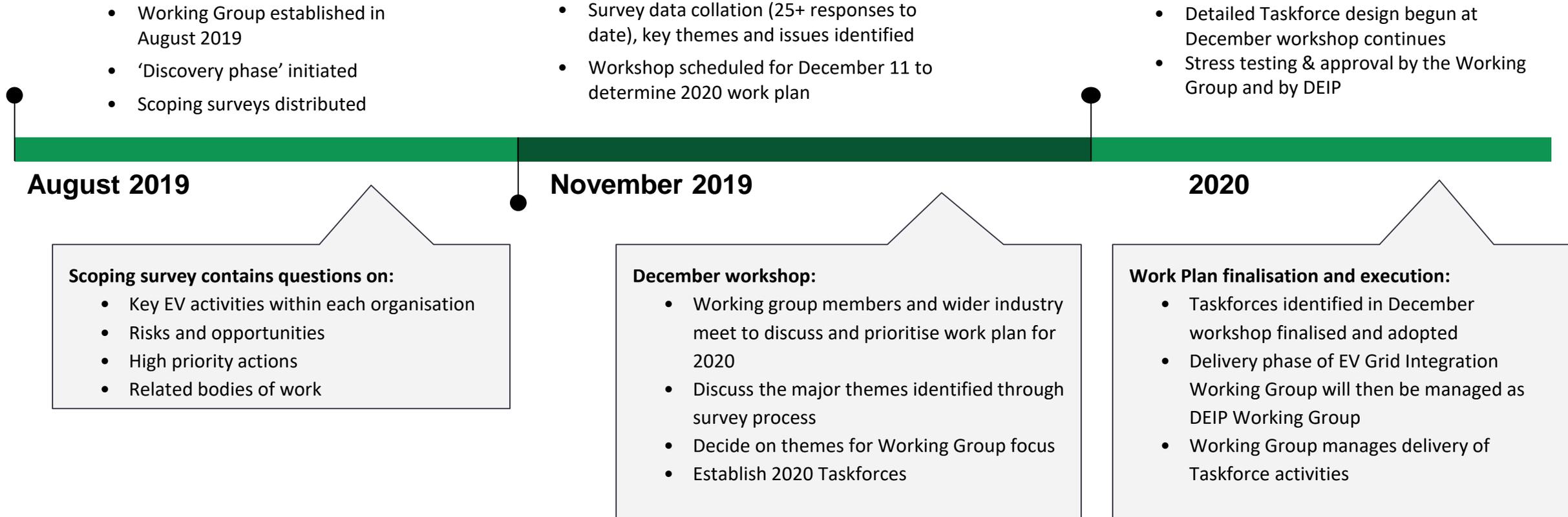
Purpose

- Provide a central forum for key industry and government stakeholders to collaborate and coordinate EV activities
- Approach EVs from an energy sector perspective but with transport and infrastructure partners
- Promote policy and regulatory development before wide scale EV adoption begins

Value

- Assess impacts and opportunities to networks and markets
- Targeting and coordination of priorities, projects and budgets
- Policy and regulatory advice and development
- Demonstrate where investment is needed to provide optimal outcome for consumers

Timeline



DEIP Overview

PURPOSE

- The Distributed Energy Integration Program (**DEIP**) is a collaboration of government agencies, market authorities, industry and consumer associations aimed at maximising the value of Distributed Energy Resources (**DER**) for all energy users.

VISION

- DEIP members have a shared interest in supporting our evolution toward a Distributed Energy System that is secure, reliable, resilient, affordable and efficiently integrates and utilises customer's distributed energy resources ('DER'), enabled through Distributed Energy Markets.

OBJECTIVE

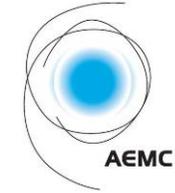
- Led by a steering group, the collaborative supports DER knowledge sharing and coordination through:
 - Establishment of taskforces to overcome identified priorities, tackle reforms and overcome functional gaps in the decentralisation of the energy industry.
 - Building networks for knowledge sharing of high value developments and creating opportunities to test assumptions and build consensus.

WHO IS INVOLVED?

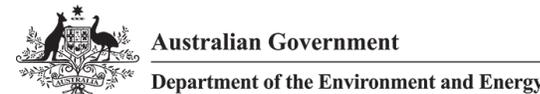
- The DEIP Steering Group involves 13 organisations who communicate regularly (see logos on right).

DEIP

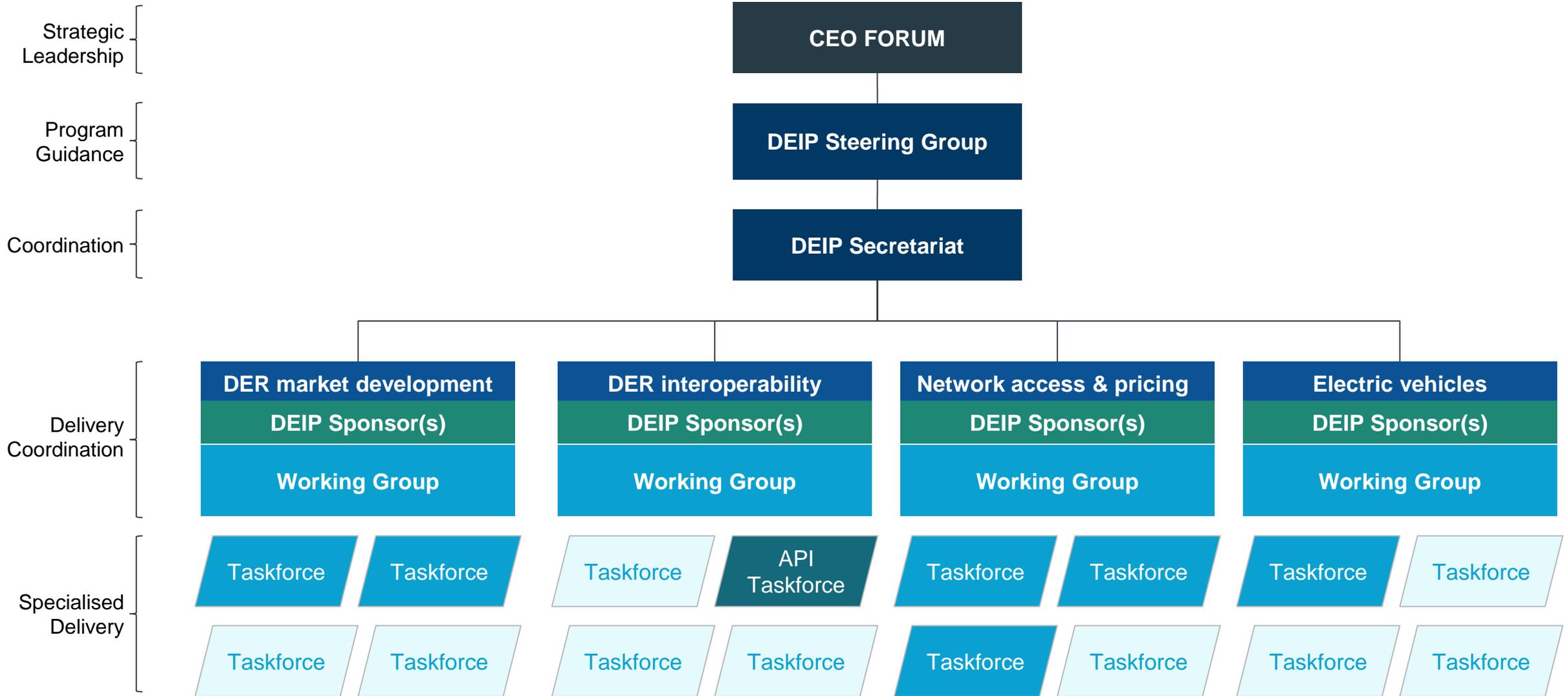
DEIP Steering Group:



Additional Working Group Organisations:



DEIP Program Governance



Four priority DEIP work packages

1. DER Access, Pricing and Engagement

Building consensus and developing arrangements to support evolving regulatory frameworks to meet changing community expectations and higher penetration of DER

- ▶ Equitable DER access arrangements
- ▶ Two way pricing model (6.1.4)
- ▶ Complementary measures (incentives, demand response)
- ▶ Regulatory investment frameworks
- ▶ Customer insights and engagement

2. DER Interoperability (Data, Communications & Cyber Security)

Coordinated industry wide support and implementation of DER interoperability platform, cyber security & device standards

- ▶ Data scope, quality and access
- ▶ Communications protocols (API working group)
- ▶ Cyber security and controls
- ▶ Device standards

3. DER Market Development

Testing the theory in practice for how DER marketplaces may deliver the most efficient outcome for consumers

- ▶ Market trials - do & learn (e.g. Vic DER Mkt PI)
- ▶ Connectivity middleware (deX + others)
- ▶ Test OpEN and alternative models
- ▶ Network monitoring and operating environment (Evolve & State Estimate Tools)
- ▶ Aggregators, planning and forecasting

4. Electric Vehicles

Facilitating the efficient integration of EVs into existing networks and markets

- ▶ EVs as DER (flexibility and coordination of EV demand)
- ▶ EV specific integration issues
- ▶ Fleet charging demonstrations (cars, buses, trucks)
- ▶ Demonstrations of V2X (including both V2G and V2H)
- ▶ Managed/smart charging demonstrations
- ▶ Connecting EV industry to electricity market reform

Discovery Phase Summary

The Working Group circulated a survey to selected industry and government stakeholders in September 2019 to gain insight into how these organisations perceived EVs from a grid integration perspective.

The chart to the right provides a summary of the responses to the survey, qualitatively assigned to categories to help visualise areas of priority.

Responses to three questions were used to identify common themes relating to EV grid integration:

- What are the key EV-related focus/interest areas within your organisation?
- What significant long-term issues relating to the energy system does your organisation believe will need to be resolved if wide-scale EV deployment is to be successful? When might these issues start to arise?
- What are some potential opportunities that wide-scale EV uptake might provide your organisation, or the broader energy system? What would need to happen to facilitate these?

The width of each segment indicates the number of responses relating to that category.

More detail on these themes will be provided at the Workshop.

EV Grid Integration Working Group - Scoping Survey Themes



Discovery Phase Summary

The survey also asked three additional questions:

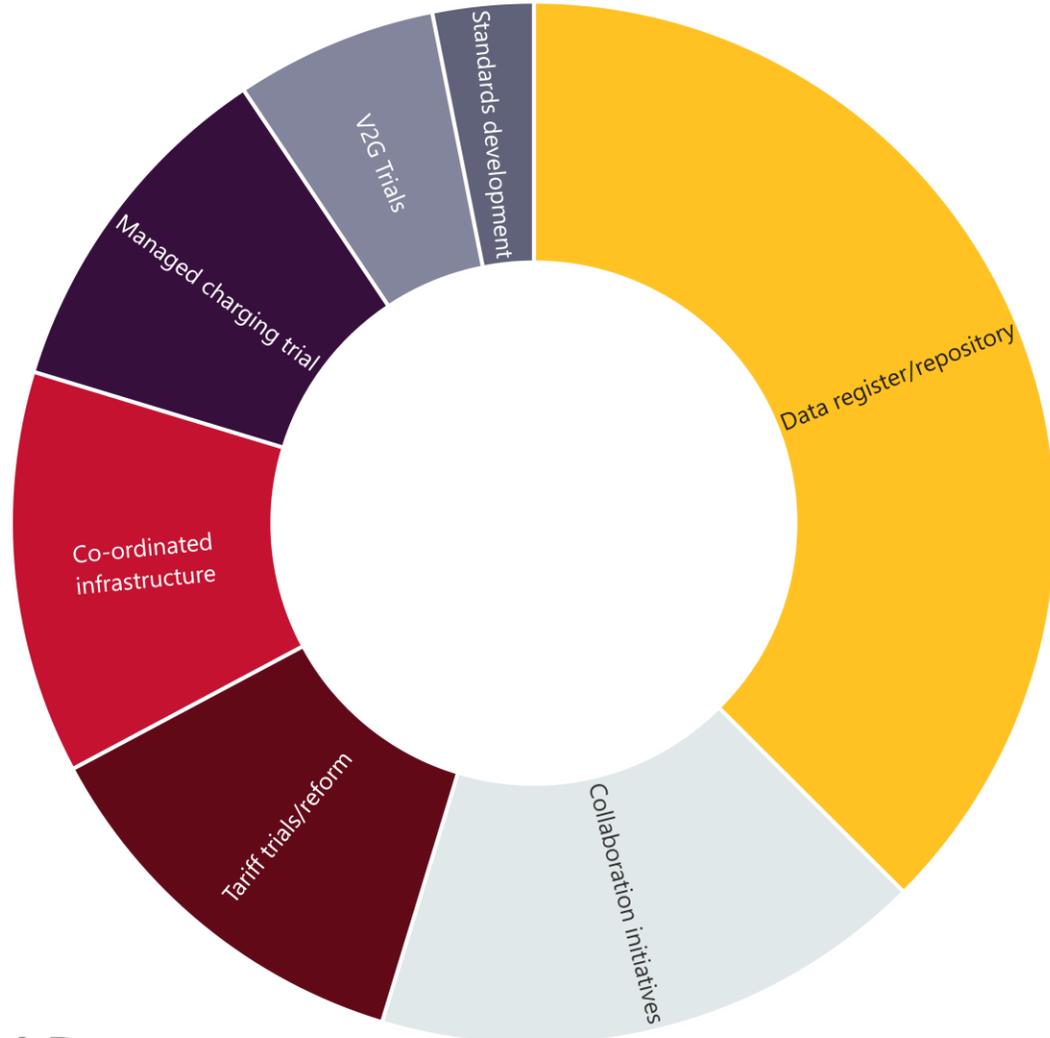
- are there any immediate issues that their organisations are experiencing right now?
- are there any quick wins, low regret tasks or potential trials that would be valuable in the near term?
- are there any long leadtime tasks that need to begin soon in order to deliver results on time?

Scoping Survey Responses - Immediate Priorities



Discovery Phase Summary

Scoping Survey Responses - Quick Wins



Scoping Survey Responses - Long Leadtime Tasks

