Decarbonisation Innovation Hub

Background

Net Zero Industry and Innovation Program

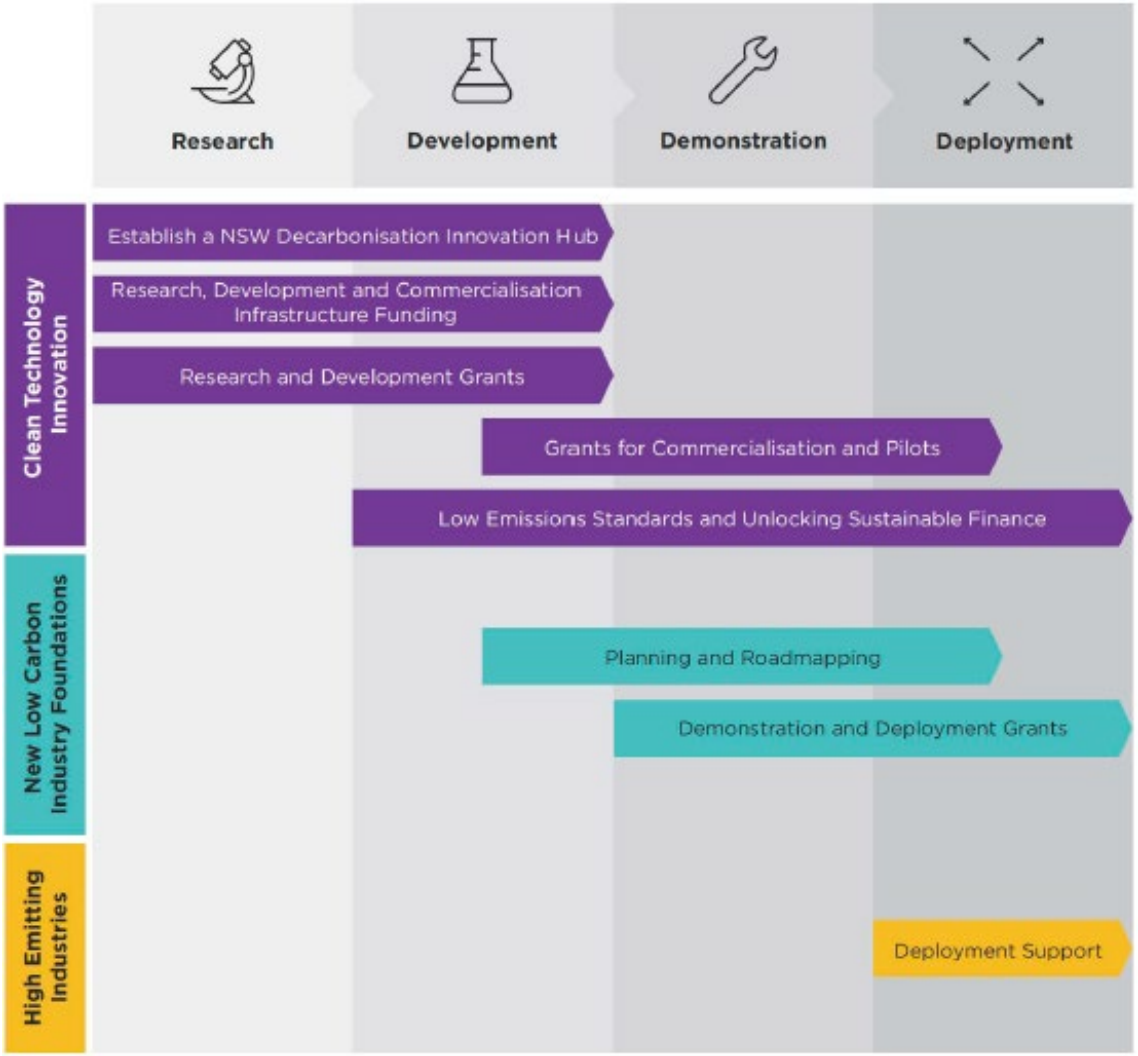
In March 2021, the NSW Government released the *Net Zero Industry and Innovation Program*[1] (the Program), which aims to support and partner with industry to reduce emissions and help NSW businesses prosper in a low carbon economy. The Program is part of the NSW Government's *Net Zero Plan Stage 1: 2020-2030*[2] to reduce emissions by 35 per cent by 2030 and achieve net zero emissions by 2050.

To boost local innovation and position NSW as a global leader in the export of low emissions products, technologies and services, the Program will focus on three areas.

The Program comprises multiple initiatives that cover the technology life cycle from research through to deployment.

[1] NSW Government (2021). Net Zero Industry and Innovation Program: Driving a clean industrial revolution.

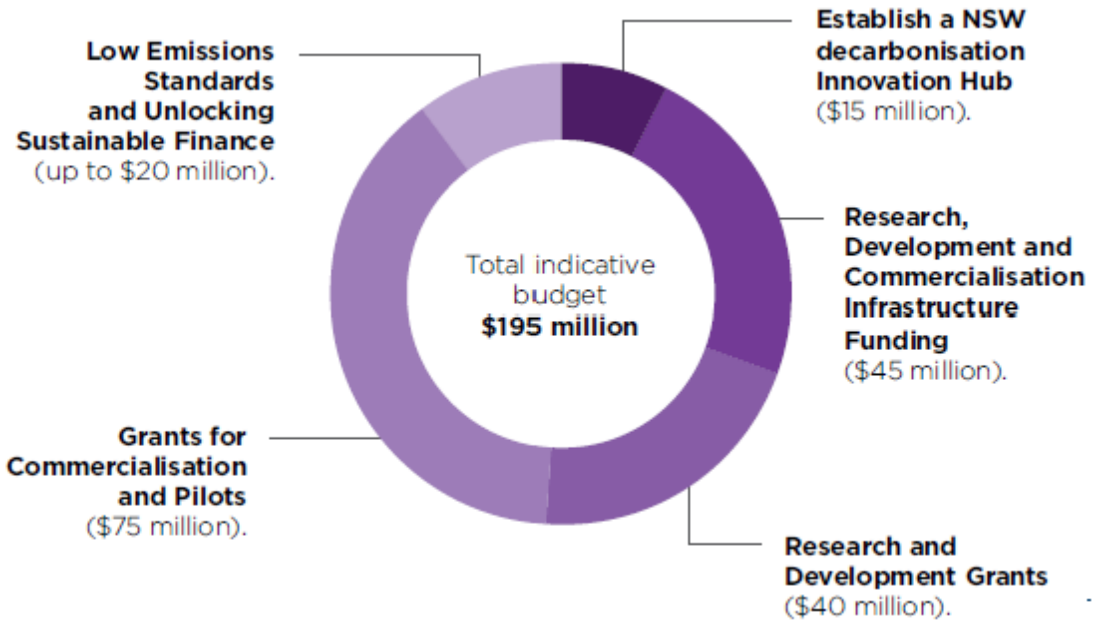
[2] NSW Government (2020). Net Zero Plan Stage 1: 2020-2030.



Clean Technology Innovation Program

The Clean Technology Innovation Program aims to create an environment where innovation is supported so new technologies are developed, tested and used in the market. Supporting clean technology is essential for NSW to reach net zero emissions by 2050. The Clean Technology Innovation Program aims to attract and direct investment into decarbonised technologies and services, developed in NSW, and unlock export opportunities into the future.

The Clean Technology Innovation Program will enable knowledge sharing, capacity building and collaboration between researchers, industry and government. This will nurture local capability and growth in decarbonised technologies and services. The five streams under the Clean Technology Innovation Program will receive $195 million in funding until 2030.



NSW Decarbonisation Innovation Hub

The NSW Decarbonisation Innovation Hub (the Hub) is one of the five Clean Technology Innovation Program's streams. The Hub will coordinate research, government and industry efforts across three priority areas:

1. Energy Systems and Electrification
2. Land and Primary Industries
3. Power fuels including Hydrogen.

The priority areas were chosen to capture the opportunities identified in the NSW Chief Scientist & Engineer's *Decarbonisation Innovation Study*[3] and the KPMG Report "*NSW: A Clean Energy Superpower. Industry Opportunities Enabled by Cheap, Clean and Reliable Electricity*"[4] which are at greatest need for accelerated R&D investment and collaboration to meet 2050 targets. Further information on the rationale for the three priority areas can be found in the supporting paper.

The Hub will adopt the 'innovation and research network model' developed by the Office of the NSW Chief Scientist & Engineer (OCSE) used to establish innovation and research networks including the NSW Smart Sensing Network, Defence Innovation Network and NSW Circular. The networks coordinate and strengthen NSW's research and industry strengths to drive innovation and economic benefits in NSW[5]. An overview of the process to establish is presented in Figure 1 and further information provided in Appendix 1.

[3] NSW Government (2020). Opportunities for prosperity in a decarbonised and resilient NSW: Decarbonisation Innovation Study.

[4] NSW Government (2019). NSW: A Clean Energy Superpower. Industry opportunities enabled by cheap, clean and reliable electricity.

[5] https://www.chiefscientist.nsw.gov.au/science-in-nsw/nsw-networks

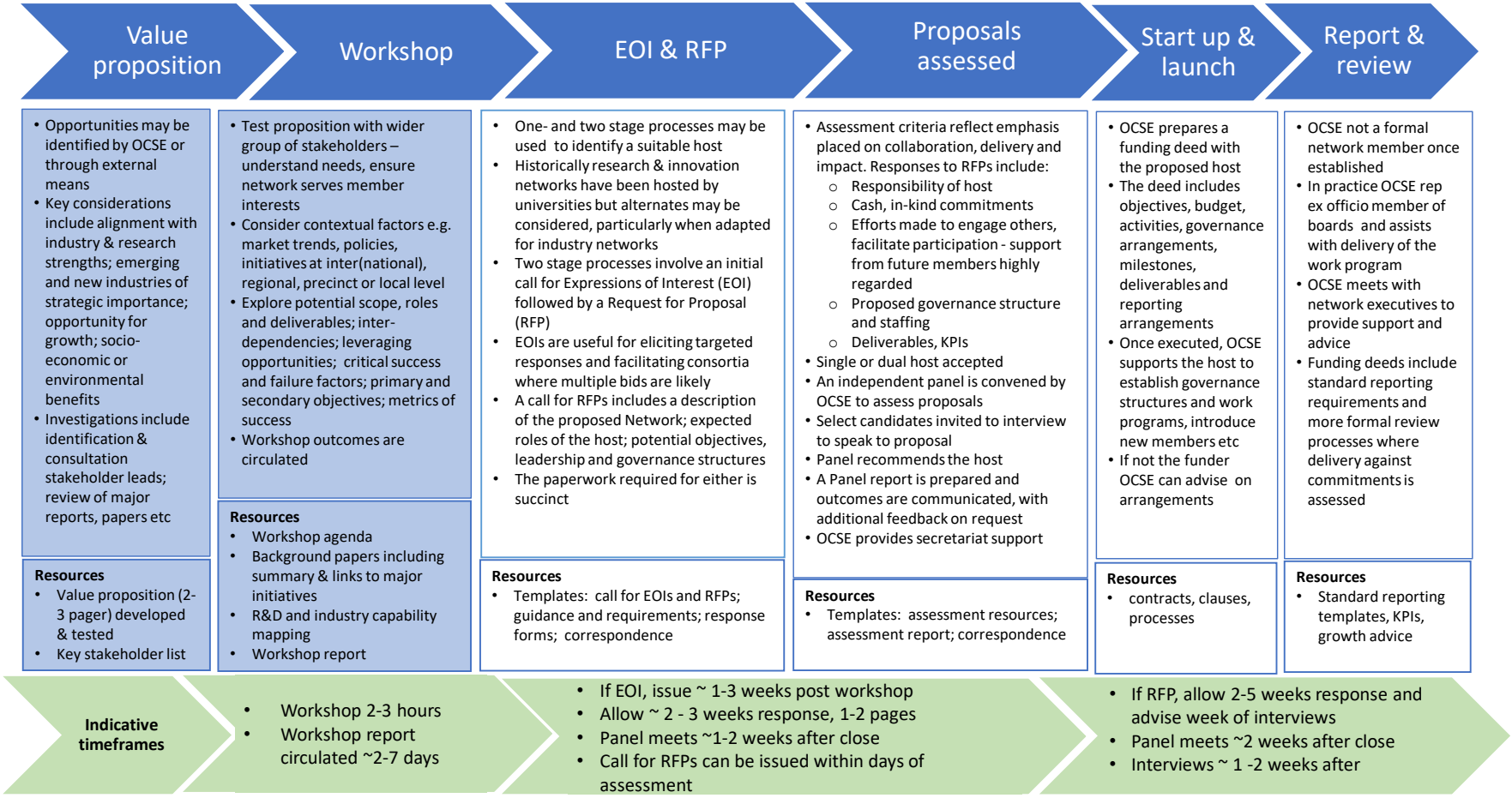


Figure 1: OCSE's Network Development Process[6]

[6] Completed steps for developing the Decarbonisation Innovation Hub are shaded blue.

Decarbonisation Innovation Hub's Vision

To support a mature and collaborative decarbonisation innovation community in NSW, by fostering the development, commercialisation and adoption of decarbonised technologies and services to reduce emissions to net zero by 2050 and provide economic benefit to NSW.

Guiding Principles for the Decarbonisation Innovation Hub

- **Decarbonisation** – the Hub will support activities to accelerate R&D, commercialisation and deployment of technologies and services for decarbonisation and achieving net zero emissions by 2050
- **Policy** – the Hub will ensure its activities are aligned with NSW Government policy on decarbonisation, including the Net Zero Plan and the NSW Chief Scientist & Engineer's Decarbonisation Innovation Study
- **Cost-effectiveness** – the Hub will only directly fund initiatives that can demonstrate a viable pathway to a long-term and/or cost-effective decarbonisation solution
- **Net benefit** – the benefits of the activities undertaken by the Hub should outweigh perverse impacts
- **Collaboration** – the Hub will support collaborative approaches to decarbonisation, working in good faith with researchers, industry and government

Objectives of the Decarbonisation Innovation Hub

The proposed objectives of the Hub include to:

- Support and accelerate the research, development and commercialisation of decarbonisation technologies and services in NSW
- Foster collaboration, partnerships and projects between industry, researchers and government that drive decarbonisation in NSW and elsewhere
- Attract investment to NSW that supports the research, development and commercialisation of decarbonisation technologies and services
- Support the growth of skills, knowledge and workforce in decarbonisation technologies and services in NSW

Funding for the Decarbonisation Innovation Hub

The NSW Government will provide $15 million over nine years to the Hub. Other funding sources may include in-kind or cash contributions from:

- the Hub and Network host institutions, both financial support and in-kind
- Hub or Network members
- other federal, state and local government agencies
- State-based, national and international programs

The funding provided and any contributions from others will go towards the operations of the Hub and Network activities which may include organising stakeholder engagement events, identifying and coordinating business development opportunities across the networks, facilitating access to funding opportunities (national Commonwealth and international programs) and seed funding opportunities.

Decarbonisation Innovation Hub Structure

An indicative structure and operating model for the Hub and its Networks is shown in Figure 2 and will be further developed in consultation with the preferred Hub host. It is proposed that the Hub will be a consortium of organisations (3 to 4) that will host the Hub and provide the Network leads.

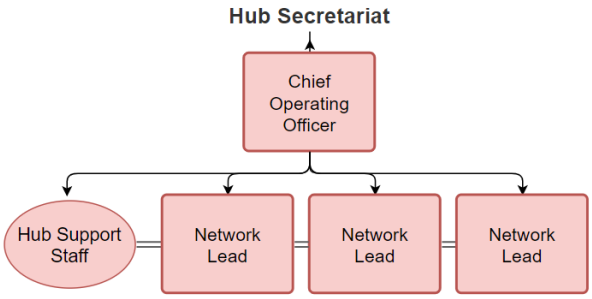
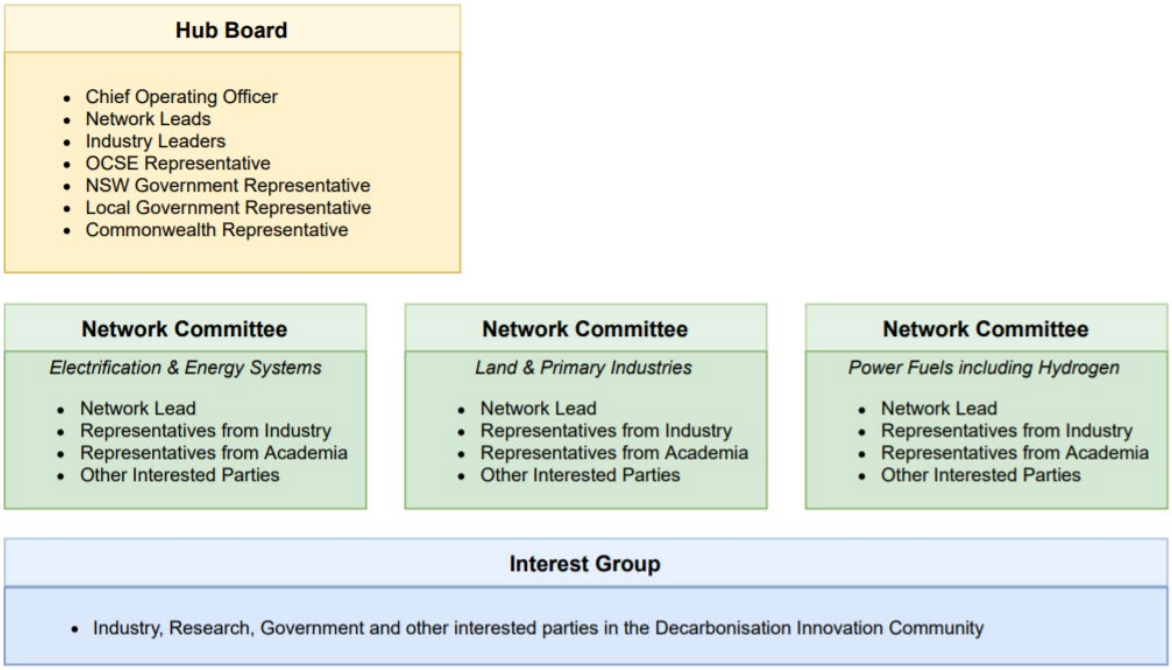


Figure 2: Governance Structure of Hub and Networks



Decarbonisation Innovation Hub Governance

The Hub will be overseen by a Board comprising the COO, Network Leads and representatives from industry and government. The Hub Board will provide strategic direction for the Hub, technical expert advice in progressing the Hub business plan and work program.

Decarbonisation Innovation Hub Operations

The Hub is likely to consists of a consortium of organisations who will act as Hub host, Hub secretariat and Network hosts. The Hub secretariat will be determined by the Hub host and the OCSE and is likely to consist of a COO who is supported by a small team to provide administrative support and functions such as business development, stakeholder engagement and communications. The secretariat will be paid employees of the Hub and be responsible for coordinating Network activities.

Operations and Structure – examples from other Networks

The structures of existing Networks differ depending on the objectives and activities of the Network.

The NSW Smart Sensing Network includes

- Two Co-Directors
- Chief Operating Officer
- Business Development Manager
- Development Manager
- Media & Public Affairs Officer
- Theme Leaders (4)
- Specialist Engineer

The Defence Innovation Network have

- Director & Associated Director
- Chair of Steering Committee
- Network Manager
- Business Development Manager
- Network Administrator

NSW Circular, the most recently established network, includes

- Chief Executive Officer
- Director
- Head of Alliances
- Chief Circular Economist
- Events & Workplace Experience Manager
- Head of Engagement

The Network leads will manage and deliver the work program for their Network. The Network leads, also employed by the Hub, will work closely with the secretariat and Network Steering Committee in developing the work program and activities and will be responsible for delivering on the work program with support of the Network Committee (see below).

Each Network will be supported by a Network Committee which will be a membership-based group across industry and researchers that will be chaired by the Network lead. These Committees will lead the activities of the Hub in the particular focus areas and will partner stakeholders to deliver on the work program and pursue decarbonisation opportunities for industry and researchers.

A Decarbonisation Innovation Hub Interest Group could also be formed which will consist of other interested stakeholders who may want to be kept informed on the activities of the Hub and any opportunities for decarbonisation.

Decarbonisation Innovation Hub's Business Plan

Once the preferred Hub host(s) and potential Network leads have been identified, the OCSE will work with them to develop the Stage 2 Business Plan to develop and implement the Hub and its Networks. The Business Plan will be based on the guiding principles, vision and objectives noted above, incorporating the proposal submitted by the preferred Hub host(s). The Business Plan will provide information on how the Hub's governance and operational structure will be established and how the workplan will be developed and key activities identified. The Business Plan will also identify and develop the Hub's monitoring and evaluation framework. A proposed budget will also be developed.

Workplan and Key activities

Once the Hub has been established, the workplan and key activities of the Hub will be identified. This will occur by first undertaking an analysis of the existing initiatives to address decarbonisation, understand gaps and opportunities, and determining how the Decarbonisation Innovation Hub can build on these initiatives while avoiding duplication. Based on this analysis, the workplan will be developed specifying the activities and operation of the Hub and Networks. The activities will prioritise the work of the Networks and will be consistent with the guiding principles of the Hub. Activities could include:

- Enhancing engagement and creating partnerships between businesses and researchers
- Helping industry identify and access relevant and world-leading research expertise and infrastructure
- Coordinating new projects and funding bids
- Supporting ongoing R&D and commercialisation projects
- Attracting major investments to NSW, and
- Providing practical advice and expertise to businesses and researchers in the specific focus area.

Economic analysis

In the development and implementation of their workplan, the Hub will undertake an economic analysis of their activities to ensure they are contributing to decarbonisation approaches that have a pathway to long-term and cost-effective solutions. This acknowledges that while some early-stage research and pilot technologies and services may not present an economic benefit, eventually these technologies and services must be economically viable and cost-competitive at scale. The economic analysis will be guided by input from stakeholders with experience in decarbonisation, technology development, commercialisation and economic impacts.

Establishment of the Decarbonisation Innovation Hub

The establishment of the Hub will involve:

1. Undertaking an open Expression of Interest (EOI) process to identify bodies interested in hosting the Hub and leading the Networks to further develop the operational and governance arrangements for the Hub and Networks
2. Invite Request for Proposal (RFP) from EOI applicants
3. OCSE working with the preferred Hub host to develop a business plan for the Hub
4. Once the business plan is approved, formally appoint the preferred host Hub

Further information on the process is provided in the Appendix.

Appendix 1: OCSE Network process

The Decarbonisation Innovation Hub will be established using the research and innovation network model the OCSE has used to establish networks across several focus areas including Smart Sensing, Defence, Circular Economy and Space. These networks coordinate and enhance the state's existing research and industry strengths, driving innovation through collaboration to deliver social and economic benefits for NSW. The networks provide a virtual and physical vehicle for researchers, industry and government to come together to progress research and industry uptake in the area.

The process for establishing Networks involves:

1. Investigate areas of interest
2. Stakeholder workshop
3. Expressions of Interest to host Network
4. Request for Proposals to host Network
5. Independent assessment of proposal
6. Launch of Network

Investigate areas of interest

The OCSE investigates the emerging area and new industries that have strategic importance and significant benefits to NSW. These areas are identified by stakeholders through the OCSE functions and projects of independent advice, research support and industry development.

Stakeholder workshop

The OCSE convenes a workshop to present the proposal to establish the Network to key stakeholders. These stakeholders include researchers, industry and government. At this workshop, stakeholder views of the role, focus, function and objectives of the proposed Network are shared. General interest in the Network is tested.

Expression of Interest

Following the workshop, the OCSE seeks interest from NSW universities to host the Network. Universities are invited to submit an Expression of Interest to establish the Network. The aim of this process is to facilitate a targeted Request for Proposal process and identify universities that may want to form a consortium to develop a joint proposal. Universities are preferred as hosts because the Network's focus is on progressing NSW research capabilities through wide collaboration between universities, industry and government.

Request for Proposal

Invitations for a Request for Proposal are then sent to interested universities. The Request for Proposal includes a brief description of the role of the Network and identifies potential objectives of the Network. It proposes potential leadership and governance structures as well as the role and attributes of the host. An overview of the funding is also included.

Responses to the Request for Proposal are expected to include:

- Nature and responsibility of the host entity
- Opportunities for participating in the Network
- Governance structure and funding contributions
- Deliverables and performance measure for the Network

Independent Assessment of the Proposals

Once the proposals have been received, the OCSE establishes an independent panel to assess the proposals. The assessment includes an interview. The independent panel recommends a preferred Network host. The OCSE provides secretariat support to the independent panel.

Launch of Network

The OCSE then approaches the recommended Network host to enter into a contract to host and establish the Network. The contract is with a single university. If a consortium is the recommended Network host, a single university would need to nominate to be the lead host (for contractual purposes) and would be responsible for the legal arrangement with any other 'co-host' universities. The contract is developed based on the submitted proposal and includes objectives, governance arrangements, a budget, deliverables and reporting arrangements.

Once the contract is executed, the OCSE works with the Network host to establish the Network. This includes establishing the governance structures, securing additional Network members, and, in collaboration with all the Network members, developing the Network's work plan.

Once launched, the OCSE will not be an active member of the Network but will retain oversight to ensure the guiding principles and objectives are maintained. The OCSE is represented on the Network's board and will ensure the Network meets its objectives and delivers on its workplan.