

CSIP-Aus Harmonisation across Australia

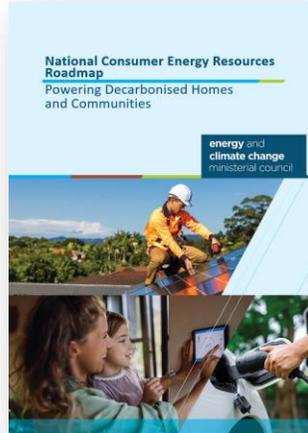
Dor Son Tan, Director of Electricity Networks ENA

2 October 2025

ENAs CSIP journey in pictures



OCT 22



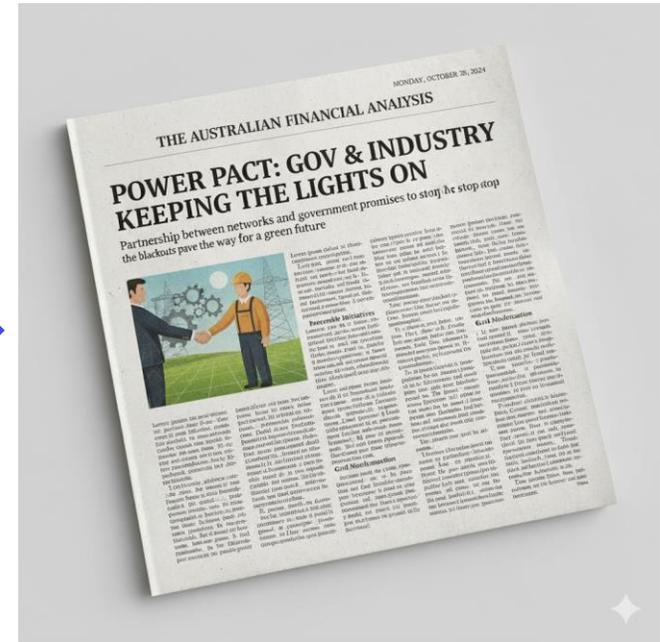
JUL 24



NOV 23



SEP 25



ENA's role in NSW and ACT: supporting a harmonised approach to CSIP-AUS



NSW DCCEE

- Common installer portal
- Weekly working groups
- Project management and stakeholder engagement



National alignment

- CSIP-AUS
- National PKI
- Smart Connect
- Synergy



SA and Victoria DNSPs

- Lessons learned
- Pitfalls
- Best practice



NSW/ ACT DNSPs

- Cross-business working groups
- Weekly online meetings
- Face-to-face workshops
- Common issues tracker, SharePoint, etc...



ACT Government

- NSW / ACT alignment



Areas where we're seeking to align in NSW/ACT

Alignment across jurisdictions

- Adopt best practice from SA
- Align approaches in NSW and ACT as much as possible
- Lessons learnt from VIC
- Alignment with Synergy in WA

Commitment to national PKI

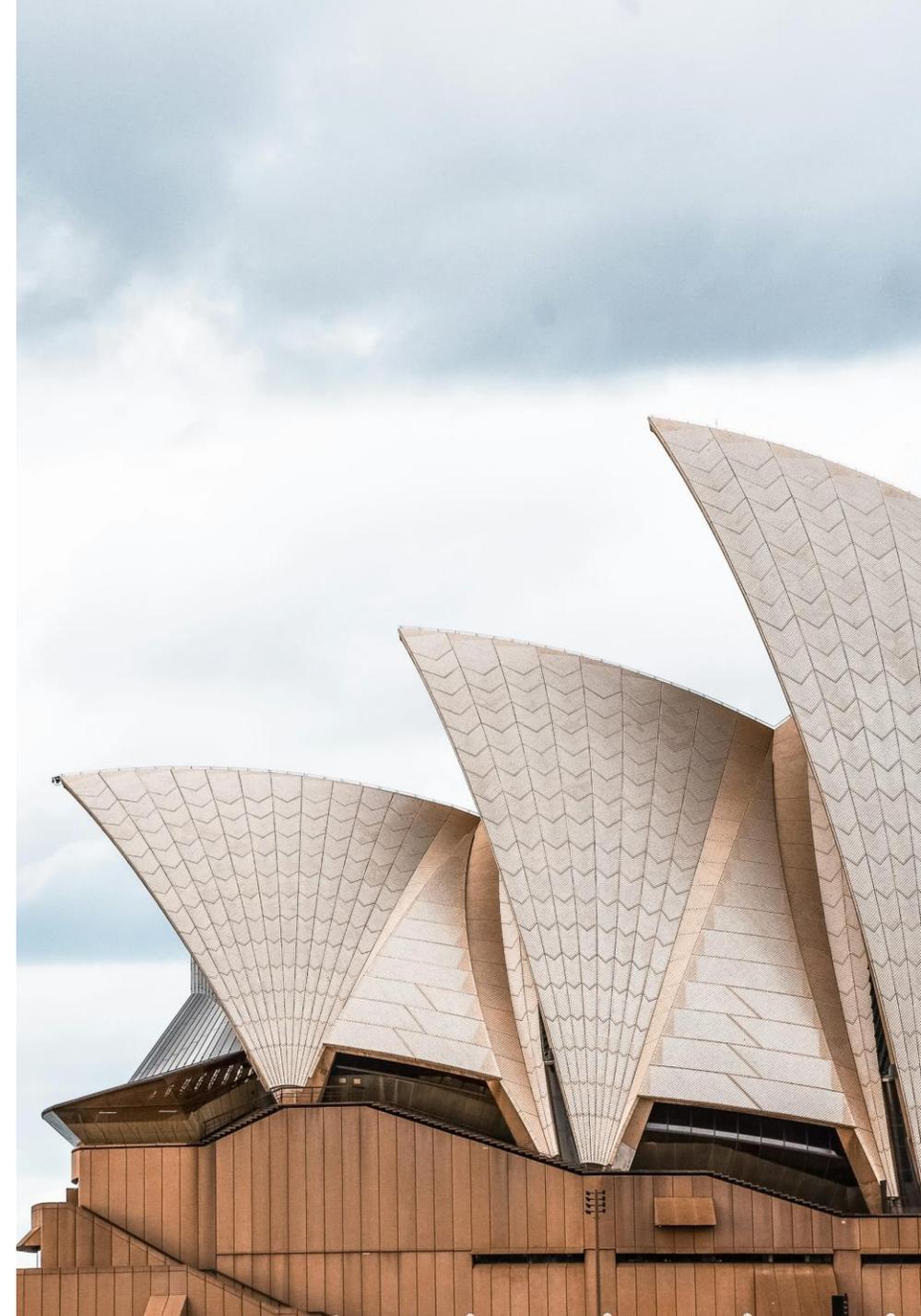
- Transition to new national PKI (NEPKI) as soon as possible

Aligned process and support model for installers

- DNSPs working with DCCEEW on single common installer portal for NSW

Combined engagement and collaboration with industry

- Common stakeholder engagement plan coordinated by DCCEEW
- Common Solar Industry Reference Group (installers and solar retailers)
- Combined engagement with OEMs and aggregators in collaboration with ANU



Areas where we're seeking to align in NSW/ACT

Long list of alignment objectives

- Alignment on CSIP-AUS v1.2 / Standards Australia TS5573:2025
- Alignment on latest version of CSIP-AUS when it comes into effect
- No requirement to test and certify products against each DNSP utility server
- Rely on new national testing and certification process using standard ANU/ISC reference implementation of CSIP-AUS
- Standardised commissioning process
- In-band registration
- Common, streamlined on-site capability test based on established best-practice
- Consistent default settings
- Post and poll rates
- Default controls (default export limit on loss of comms)
- Common onboarding process for OEMs and aggregators
- Common utility interconnection handbook
- Common cyber and other requirements for utility server onboarding



NEPKI



National Energy
Public Key
Infrastructure

CSIP-AUS Connect
2nd October 2025

A collaboration of



The reason(s) we need NEPKI

The Problem and Opportunity

- Distributed solar PV and batteries make up a significant share of Australia's energy system, providing cheap, clean, renewable energy at scale.
- Their growing contribution means these Consumer Energy Resources (CER) must be recognised as critical infrastructure.
- This means their operation and communication to/from devices must be secure, especially in emergencies.

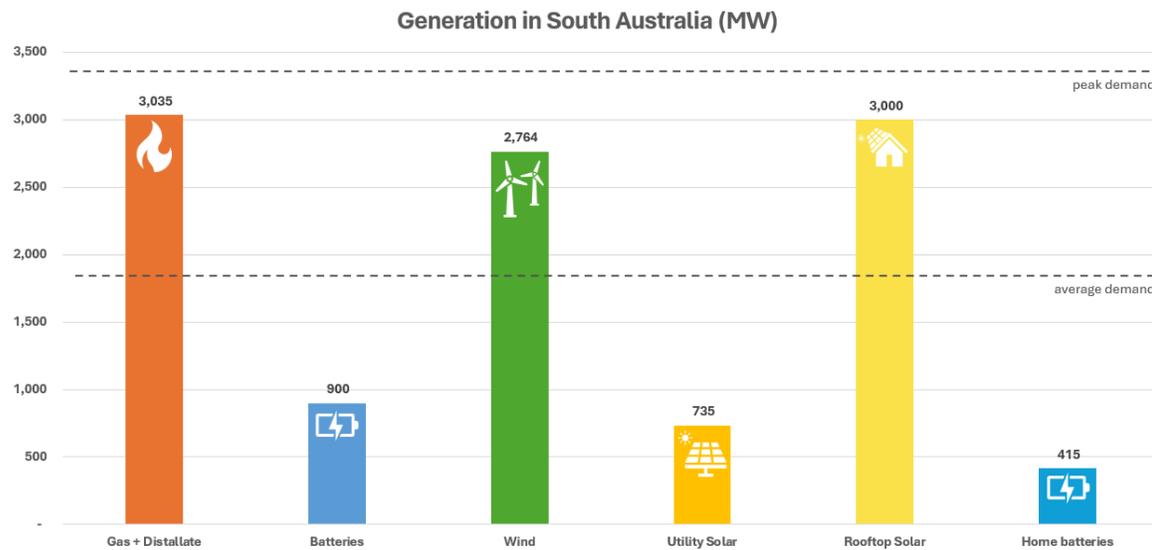
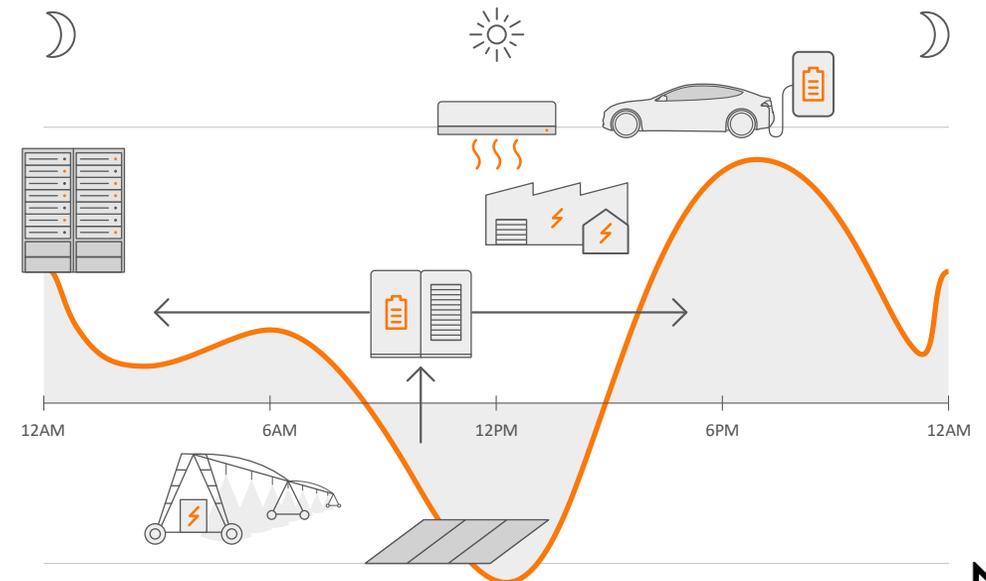


Figure: Rooftop Solar is equivalent to South Australia's largest generators

More than just solar backstop

- The communication standard used to manage CER in emergencies (IEEE 2030.5 CSIP-AUS) can also be used to drastically increase network utilisation.
- Most networks have significant spare capacity outside peak times, which can be unlocked through 'flexibility'. Practically this looks like smart CER (solar, batteries, EVs, smart appliances) responding to internet-based signals from Networks or Retailers to time-shift usage out of peak or minimum demand periods.
- Examples: curtailing solar, charging or discharging a battery, delaying EV charging
- Increasing network utilisation is good for everyone because it lowers the unit price of energy.



NEPKI for the initial CSIP-AUS Use-Case

Value Proposition

National Energy Public Key Infrastructure (NEPKI) is established to develop, deliver, and maintain a national PKI on a **not-for-profit, fair, non-discriminatory** basis.

NEPKI provides material industry benefits through:

-  **Cost savings:** Avoids duplicative PKI systems, reducing whole of system costs for DNSPs, market participants, OEMs, installers, and customers.
-  **Simple & efficient:** A single system delivers faster and broader take-up, lower compliance burdens, and consistency across Australia.
-  **Security:** Provides stronger, consistent protection against compromised or malicious devices across networks.

PKI Consumers

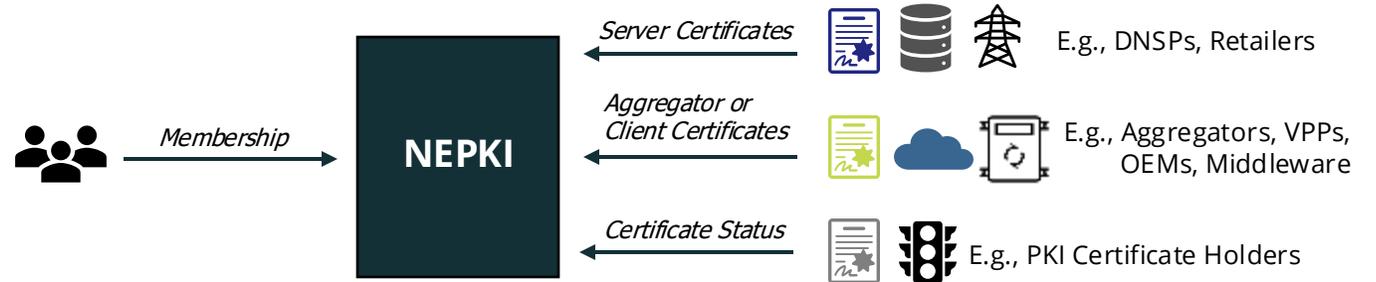
The following organisations will have a role to play in the PKI ecosystem as consumers of NEPKI services:



Interactions

The services NEPKI can provide is limited by ACCC's authorisation in July 2025 and is currently restricted to PKI Services for CER via CSIP-AUS.

Source of Revenue		Description
NEPKI Membership		Annual General Meeting attendance and voting rights within membership classes
PKI Consumer services	CSIP-AUS Server	CA, RA, certificate lifecycle management OCSP & CRL repositories.
	CSIP-AUS Client	CA, RA for aggregators and clients
	Certificate Status	Certificate lifecycle management OCSP & CRL repositories



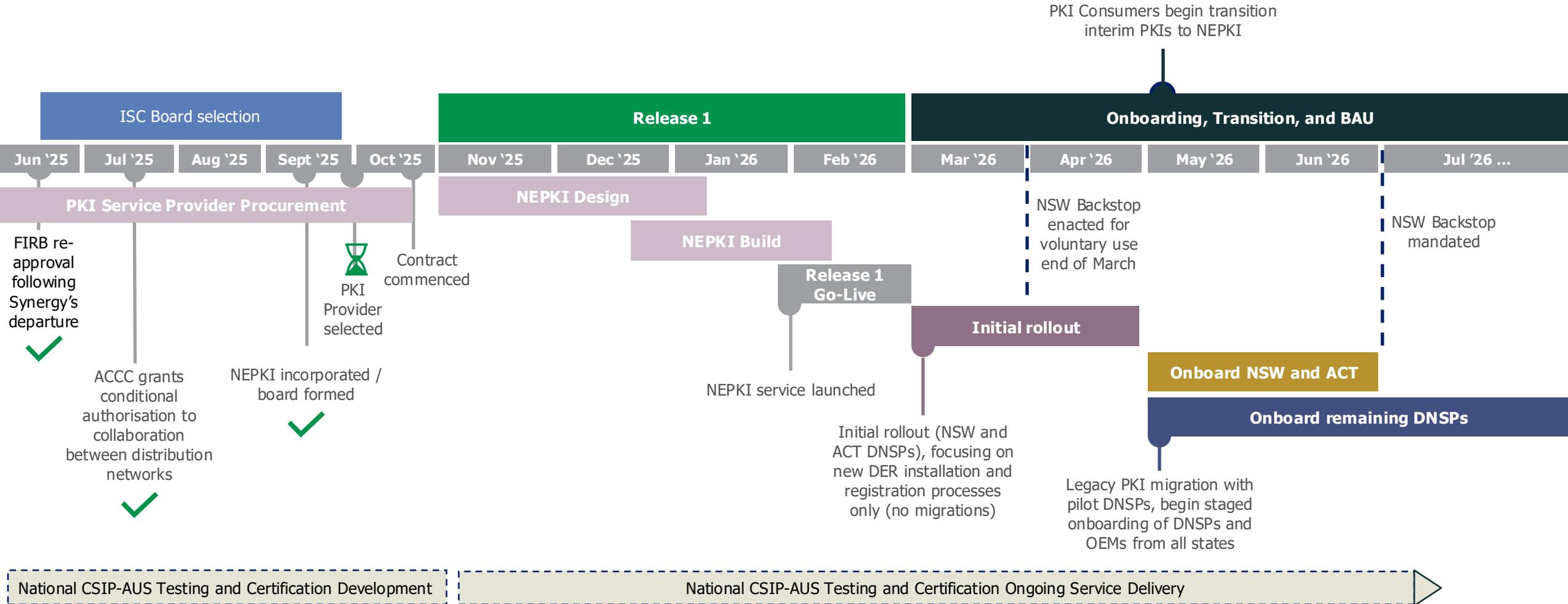
Supporting Processes

NEPKI provides a suite of supporting services and processes as part of the certificate lifecycle:



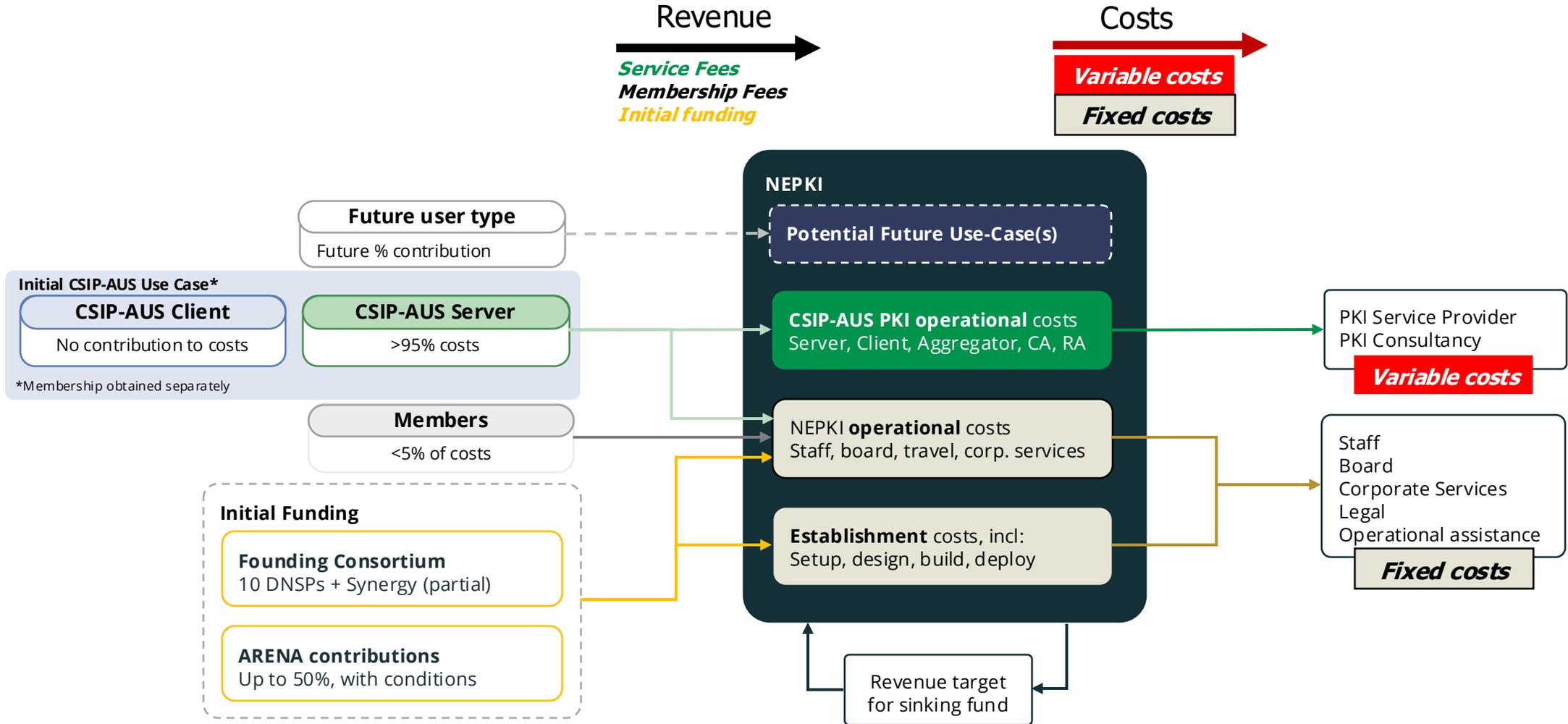
High Level Timeline and Dependencies

After a long wind-up NEPKI are catapulting into action.



How NEPKI operates

A visual depiction of NEPKI's input and output flows.



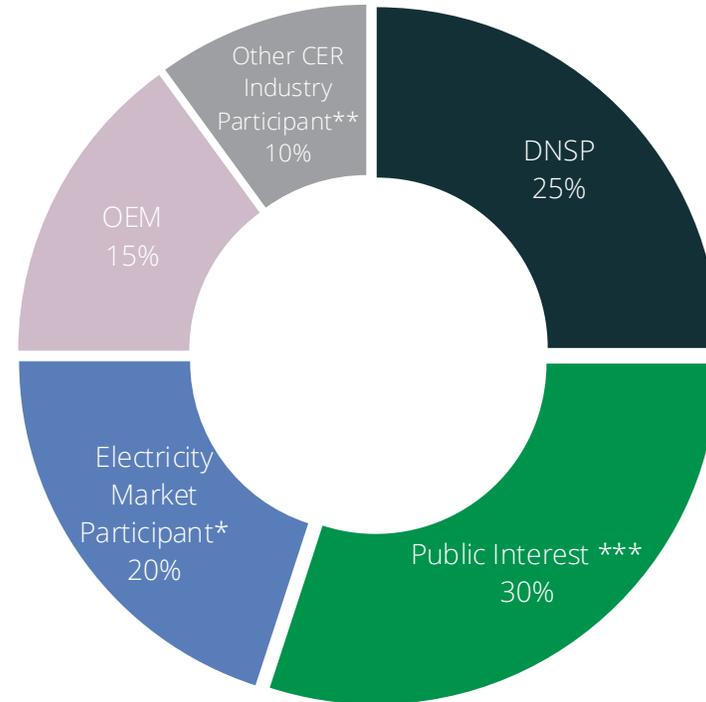
NEPKI's Governance Model

NEPKI is for the public interest, not the sole interests of networks

DIRECTORS

DESIGNATED		Dom Adams
		Public Interest Members
INDEPENDENT		Lachlan Blackhall, Chair
		Caitlin Trethewey
		Anissa Levy
		Ed Chan
		James Brown
CEO		Naomi Wynn

MEMBERSHIP & VOTING RIGHTS



* Retailer, Aggregator or their respective peak body

** a person not eligible for any other Class who carries on business in relation to the supply of CER or energy produced by CER

*** AEMO, the Commonwealth, State or Territory governments

SUMMARY OF GOVERNANCE MODEL

- **Open Membership** – Anyone meeting class criteria can join
- **Voting** – Members votes are distributed proportionately; DNSPs capped at 25%.
- **Board Structure** – directors (majority independent, including independent chair) + 2 designated (Public Interest, ENA). CEO may be added as 8th via special majority; chair has casting vote.
- **Independent Directors** – 5 independent directors appointed by the NEPKI Chair; some flexibility on business relationship restrictions to balance expertise.
- **Designated Directors** – 1 Public Interest, 1 ENA.
- **Independent process** – Independent Directors were Assessed and recommended by a subcommittee of the interoperability steering committee, that did not include any assessed or recommended members
- **Obligations** – Members and directors must support NEPKI objectives, including non-discriminatory PKI delivery.



ENA and NEPKI are grateful
for your partnership