SA Power Networks

Industry opportunities – DER value release

Future of Australian Energy Symposium, 6 February 2018
SA Power Networks – snapshot

**Sole distributor in South Australia**
- Maintain safety & reliability
- Connect new customers
- Extend and upgrade the network
- Public lighting

**Key statistics**
- 2,000 employees
- 42 depots & offices
- 180,000 km² supply area
- 850,000 customers
- 3,000 MW peak demand
- 10,000 GWh annual energy
We face a distributed energy future

- Over the coming decades, 50 – 100% of energy will be generated by customers’ resources within the distribution network
- And SA is leading the charge …
Distribution level impacts

Network demand – Salisbury battery trial

Traditional demand

Yesterday’s challenge
Distribution level impacts

Network demand – Salisbury battery trial

Traditional demand + solar

Today’s challenge
Distribution level impacts

Network demand – Salisbury battery trial

Traditional demand + solar + battery + orchestration

Tomorrow’s opportunity & challenge
State level opportunities & challenges

AEMO’s minimum demand forecast for South Australia

By 2026-27, there will be enough rooftop PV to supply all SA demand when demand is low

Rooftop PV:
The largest generator in the state

Projected increase from 800 MW to 2,000 MW over the next 20 years

Large virtual power plants:
Could either assist or threaten security of supply
DER value release

- Releasing value ... without breaking the network

Static strategies
- Export limits
- AS4777 advanced power quality modes
- Traditional network upgrades
- Tariff reform

Dynamic strategies
- Network models/monitoring
- Dynamic export limits
- Smart DER

Orchestration
- Market platforms
- DSO capabilities

Value release

Wholesale market participation
Network savings
Additional exports
Network security
Self-consumption
Passive energy exports

Net value Release
$1 billion+ potential
Sophistication
What now?

• **Future Network Strategy:** transforming our network and services to meet customers new needs
• Options to manage state-wide security of supply
• Smart DER
• ENA/AEMO white paper