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31 January 2023

Jim Chalmers MP
Treasurer
Parliament House
Canberra
ACT 2600 Australia

Dear Treasurer,

RE: Measuring What Matters

SwitchDin welcomes the opportunity to provide you with a response to the 'Measuring What Matters' consultation.

SwitchDin is an Australian energy software company that bridges the gap between energy companies, equipment manufacturers and energy end users to integrate and manage energy resources on the grid. SwitchDin's technology enables our clients to build and operate vendor-agnostic virtual power plants (VPPs) and microgrids, and to optimise performance across fleets of diverse assets. Founded in Newcastle NSW in 2014, SwitchDin operates in all states of Australia, including in leading-edge distributed energy projects like Simply Energy's national VPP, flexible export programs in South Australia (SA) and Victoria, Project Symphony in Western Australia (WA) and the Solar Connect VPP in the Northern Territory (NT), among others. SwitchDin works with distribution network service providers (DNSPs), electricity retailers, inverter original equipment manufacturers (OEMs) and aggregators to enable and utilise flexible export capability.

SwitchDin welcomes your Government's commitment to 'measure what matters' in addition to traditional economic indicators.

SwitchDin proposes that the 'Measuring What Matters' report should include indicators of the transformation of Australia's energy system. The reporting framework could build upon data already collected and published by the Australian Energy Market Commission (AEMC). The value of reporting by the Department of Treasury is that it could be truly national (not limited to the National Electricity Market jurisdictions) and could consider indicators beyond the traditional indicators.

SwitchDin recommends:

- Treasury incorporates indicators for the transformation of Australia's energy system into a national framework for wellbeing using the indicators we suggest in **Proposed Indicators, below**.
- Energy transformation indicators are embedded into policy and decision-making across all levels of government and the public service.
- Greenhouse gas emissions should be considered a priority indicator alongside economic indicators.

Indicators should be accompanied by progress goals and accountability measures. Doing so will help avoid a 'business as usual' situation where fiscal measurements ultimately guide policy.

Proposed Indicators for Tracking Progress with the Transformation of Australia's Energy System

1. Traditional Indicators

Traditional indicators would continue to be measured, but they would no longer dominate the measurement framework for the electricity system. The traditional indicators would, for example, include:

- Wholesale and retail electricity prices, including variation by region and customer type,
- Investment, by asset type,
- Employment by sub-sector, and
- Other traditional economic indicators for the energy system.

2. Emission Indicators

With emission targets set to be incorporated in the National Electricity Objective (NEO), it will be important to develop new sets of indicators to enable measurement of the emissions performance of the energy systems. These could include:

- Carbon intensity of energy (measured as emissions per unit of energy and emissions per unit of economic value added) by sub-sector,
- Intensity of other pollutants emitted during electricity generation,
- Emissions intensity by generation type, and
- Comparison with targets for emission reduction, economy-wide and by sector.

3. Affordability and Equity

Energy is becoming an increasingly significant proportion of household and business expenditure. Affordability and equity could be monitored using indicators such as:

- Proportion of household income spent on energy, and how that varies by geography and socio-economic groups,
- Energy as a proportion of business input costs, and
- Expenditure for energy consumption rebates.

4. Generation Technology

To measure the transformation of the electricity system, relevant indicators include proportion of:

- Electricity generation by technology and fuel type,
- Installed inverters that are interoperable,
- Network assets that are interoperable with customer assets, and
- Electricity market services satisfied by generation technology and fuel type.

5. Decentalisation

Australia has one of the world's most decentralised energy systems and the trend toward decentralisation is ongoing. This aspect of the energy transformation could be measured using indicators such as:

- Proportion of electricity generated and self-consumed behind the meter,
- Installed capacity of rooftop solar,
- Percentage of households and businesses with rooftop solar,
- Distribution of ownership of generation assets, and
- Proportion of electricity market services satisfied by centralised versus decentralised generation.

6. Climate Resilience

Weather-related natural disasters will increase under climate change and the energy system must be able to cope with future weather scenarios. Indicators for resilience could include:

- Investment in resilience features (eg. islandable microgrids), and
- Performance in relation to resilience (eg. days of outages caused by weather and natural disasters).

Thank you for the opportunity to respond to these important issues. I remain available for further discussions and inputs.

Best regards,

Andrew Mears
CEO and Founder