



Clean Energy Council submission to the SA Government consultation on the proposed export limit requirements for distributed solar generating plants in SA

The Clean Energy Council (CEC) welcomes the opportunity to provide feedback on the Government of South Australia (SA) Department for Energy and Mining consultation on the proposed export limit requirements for solar generating plants in SA.

The Clean Energy Council is the peak body for the clean energy industry in Australia. We represent and work with Australia's leading renewable energy and energy storage businesses, as well as rooftop solar installers, to further the development of clean energy in Australia. We are committed to accelerating the transformation of Australia's energy system to one that is smarter and cleaner.

The CEC supports the development of the technical capability, standards, and regulatory framework to enable use of dynamic export limitation and dynamic operating envelopes. We have been collaborating with SA Power Networks, policy makers, research bodies, and other organisations to enable this approach to optimising the use of the distribution network.

While we support the proposal for dynamic export limits in principle, we are very concerned that the SA Government proposal to mandate technical solutions from 1 January 2021 will be counterproductive and could undermine the excellent work that has been undertaken by SA Power Networks, the Australian Renewable Energy Agency (ARENA), the Australian Energy Market Operator (AEMO), the Australian National University (ANU), Standards Australia and others.

It is too soon to mandate this technical capability in inverters. We strongly doubt that the proposed timeframe is achievable. A more realistic timeframe for this proposal would be 2022. By insisting on an unreasonable timeframe, the SA Government risks undermining the ability to achieve the goals of interoperability and cyber security in the longer term.

There is a widely shared view across industry that the international standard, IEEE 2030.5, should be the 'end game' for interoperability of distributed energy resources (DER). Introducing a South Australian 'rail gauge' problem into the mix will be distinctly unhelpful. Please consider the risks involved whenever government officials try to pick technology winners.

We would be happy to discuss these issues in further detail with representatives of the SA Government.

Standards are important, a South Australian 'rail gauge' would be a major setback

Even though there are technology vendors with products available that enable dynamic export limitation, there are no agreed standards for dynamic export limitation yet and it can be very difficult to communicate with a wide range of inverters. Therefore, developing agreed standards across industry is important.

The SA Government has proposed that a dynamic export limitation requirement should be mandated from 1 January 2021. There is no possibility on an agreed standard by that time. We understand that the SA Office of the Technical Regulator (OTR) is considering a 'deemed to comply' approach. It would be a highly retrograde step for the OTR to start 'picking winners' and deciding on its preferred technology in advance of the development of standards and application programming interfaces (APIs). This could set back moves toward interoperability by introducing South Australian 'rail gauge' issues.

There is a need for a clear and consistent national standard for dynamic export limitation and for this to be referenced in the Government regulations. Interoperability and cyber security standards are very important and are not yet in place. SA Power Networks still needs to work with the API Working Group and with industry more broadly to develop these standards to support the implementation of 'Flexible Exports'.

We strongly urge the SA Government to carefully consider whether insisting upon an impractical timeframe will undermine the work towards better interoperability with agreed standards and cyber security. Insisting on a South Australian 'rail gauge' in an unreasonable timeframe is an obstruction to the people working collaboratively to solve the technical issues involved in making dynamic export limitation a reality.

Who will specify performance criteria?

The consultation paper states that "the proposal is technology neutral, allowing the competitive market to determine the most efficient way of meeting these technical standards". This approach does not avoid the need for performance specifications. It is unclear whether the SA Government will accept any level of performance that meets the requirement for dynamic export limitation or if there will be expectations regarding response times, for example. If there will be performance criteria, it is unclear who will set the criteria and the process that will be used to do that.

CEC recommends a rigorous certification process against a published application programming interface (API) standard test procedure, testing compliance against critical performance and response requirements. It is unnecessary for the OTR to deem solutions provided they comply with standards, which should be stipulated in the regulations.

IEEE 2030.5 should be the shared goal

There is a shared commitment across industry, researchers, distribution network service providers (DNSPs) and energy policy makers to the adoption and staged implementation of the international standard, IEEE 2030.5. This should be the end game. It would be a mistake to prescribe interim solutions that will create legacy issues and will deflect from the end game.

IEEE 2030.5 is already being utilised successfully in Australia. The Onslow Project, for example, is in the latter stages of completion and Horizon Power has control of more than 200 DER installations via IEEE 2030.5.

We understand that AEMO is about to commence the development of standards for interoperability and cyber security. We are very surprised that the OTR and the SA Government thinks it is better placed than AEMO to undertake this work and to select 'deemed to comply' solutions in advance of standards.

We urge the SA Government to consider the work already undertaken to develop an Australian Implementation guide for compliance with IEEE 2030.5. Supporting the implementation of IEEE 2030.5 in SA would be the most constructive contribution the SA Government could make now. We encourage

the SA Government to review how IEEE 2030.5 is being implemented in California, and the lessons that can be learned from the only jurisdiction in the world to have legislated this as a mandatory requirement for DER.

It would be counterproductive to implement a simplified, market driven interim option for dynamic export limitation that would precede development of an Australian Implementation guide for compliance with IEEE 2030.5 and create legacy issues.

Impact upon Virtual Power Plants

SA Power Networks has developed some world-leading Virtual Power Plant (VPP) programs. The consultation paper does not provide any comfort that the SA Government has considered the impact of its proposed dynamic export limitation requirements on the SA Power Networks VPP programs.

There are significant potential ramifications for VPPs and Frequency Control Ancillary Service (FCAS) operation as export from storage may be curtailed under the proposed approach.

Several CEC members have been working with SA Power Networks testing dynamic operating frameworks. This approach is technology agnostic, scalable, cost effective for customers and can be retrospectively deployed across the incumbent SA inverter fleet. Full integration with SA Power Networks via APIs will not be an option from 1 January 2021. The SA Government's intervention is an unhelpful distraction that will divert attention from the main game.

We urge the SA Government to exempt VPPs from device-level requirements for export control. VPPs are already controlled at the aggregate level. A multi-layered market aggregator needs to take account of multiple competing priorities to deliver the required performance across its fleet. It would be unnecessary and counter-productive for the SA government to mandate an additional layer of requirements on devices that are already part of a VPP. The model for export limiting should not preclude management via cloud-based aggregation.

Verification and approval process

It is unclear how the SA Government proposes to verify the capability it is seeking to mandate. Will the SA Government accept a manufacturer's declaration that its product has the requisite capabilities? If not, will the SA Government expect independent verification that devices can perform as required? If so, who would test the capability and against which standard will products be tested? If the OTR is going to pick technology winners, what will be the process and criteria for OTR approval?

Will static zero export limits be allowed?

The CEC has a long-standing concern about the use of static zero export limits as a condition of grid connection and we would strongly prefer dynamic operating envelopes instead. Nevertheless, we have been approached by SA businesses who are concerned that the SA Government's interventions will severely limit the technology options available and could make installation of solar impractical, at least in the short term. Some members have therefore asked CEC to request that SA Government clarify whether static zero export limitation will be permitted as an alternative to the proposed SA 'rail gauge' solution for dynamic export limitation.