

## Avoided TUOS Calculation for Embedded Generators for 2018/19.

Evoenergy is required to pay an embedded generator Avoided Transmission Use of System (TUOS) payments in accordance with the obligations detailed in Schedules 55.4AA(a)(2) and 5.5 (h)(i)(j) of the National Electricity Rules.

Evoenergy pays TransGrid monthly TUOS payments based on their AER approved Transmission Pricing Methodology. The transmission pricing applicable at Evoenergy's connection points for 2018/19 as published by TransGrid is detailed in Table 1.

2018/19 TransGrid TUOS charges			
Customer Point	Connection	Exit	Demand
		(\$/day)	(\$/kW/mth)
ActewAGL	Angle Crossing 11	2316.24	2.2740
ActewAGL	Belconnen 11	4015.55	2.4210
ActewAGL	City East 11	4681.55	2.9446
ActewAGL	Civic 11	4626.03	2.6486
ActewAGL	East Lake 11	3404.76	2.9642
ActewAGL	Gilmore 11	4107.92	2.6976
ActewAGL	Gold Creek 11	4015.40	2.3830
ActewAGL	Latham 11	4496.51	2.2658
ActewAGL	Queanbeyan 66	903.58	3.8281
ActewAGL	Telopea Park 11	2960.66	3.3511
ActewAGL	Tennent ZS 11	0.00	2.8859
ActewAGL	Theodore 11	3885.87	2.6318
ActewAGL	Wanniassa 11	4607.53	2.6387
ActewAGL	Woden 11	4792.57	2.4766

Table 1: TransGrid 2018/19 ACT Transmission pricing

**General principles:**

1. The generator must be registered by AEMO as a Registered Generator.
2. For an embedded generator the avoided TUOS payment will be calculated by reference to the published TransGrid locational pricing monthly demand charge only for the designated Evoenergy connection point.
3. Avoided TUOS payments are required to be only paid for the months where the embedded generator reduces the actual Evoenergy TUOS payments to TransGrid.
4. The Avoided TUOS payments will be calculated and paid retrospectively after the end of each financial year based on the accredited settlements data.
5. The Daily Exit Charge is regarded as a fixed cost to Evoenergy and will not be considered as a component of the Avoided TUOS payment.
6. The TransGrid monthly demand charge is calculated by applying the published TransGrid Demand Charge to the monthly peak demand trading (30 min) interval at each Evoenergy connection point.
7. An embedded generator may reduce the monthly TransGrid TUOS charge for a designated Evoenergy Connection Point if its generation output is coincident with the recorded monthly peak demand trading (30 min) interval that would have been used for calculating the TransGrid monthly Demand charge.
8. The Avoided TUOS payment will be based on the calculated coincident reduction caused to the recorded monthly peak demand trading (30 min) interval at the designated Evoenergy Connection Point by the embedded generator's metered output.
9. The designated Evoenergy connection point will be either the closest connection point in the electrical network to the generator connection point or be based on system load flow studies modelling the expected energy flows.
10. The Embedded generator output will be adjusted by applying the Distribution Loss Factor (applicable for the voltage at the connection point) factor applicable to the embedded generator's position within the Evoenergy network to their metered output. A site specific DLF may be calculated if necessary. The 2018/19 DLF are detailed in Table 2.

<b>2018/19 Evoenergy Loss Factors (DLF)</b>	
HV Sub	1.0037
HV Lines	1.0153
LV Lines	1.0467
ASO4 ( Solar Farm, site specific)	0.9997
ASO6 ( Solar Farm, site specific)	0.9984
ASO7 ( Solar Farm, site specific)	0.9983

**Table 2: Evoenergy 2018/19 Distribution Loss factors (DLF)**

### Example

Calculate the monthly Avoided TUOS for an embedded solar generator connected directly to the Evoenergy system at the Theodore 11kV bus:

- Assigned connection point = Theodore 11
- Theodore 11 gross monthly MD (excluding embedded generation output) recorded at trading interval 14:30 hours on 21 January.
- Generator DLF = 0.9999
- Embedded generation coincident output at 14:30 hours on 21 January = 10,000 kW
- This generation output has therefore reduced the actual Theodore ZS MD by 10,000kW
- Monthly Avoided TUOS Payment

= Generation output (kW) x DLF x Connection Point Demand Charge (\$/kW/mth)

= 10,000 x 0.9999 x \$2.7520 = \$27,517.25

This exercise is repeated for each month to summate to an annual Avoided TUOS payment.

Note: There may be months where the co-incident embedded generation output is zero at the Theodore ZS monthly peak interval maximum MD. In these months there is no avoided TUOS payment.

### Disclaimer:

This document is for illustrative purposes only and will in no way form a binding agreement between Evoenergy and the reader.