

# Annotated Bibliography on methodology for setting feed-in tariffs in Australia

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This bibliography was produced as part of the project “*Research review and advocacy on the fair value of distributed generation*”.

The project’s aim is to summarise existing research and undertake advocacy on setting a fair feed-in tariff for solar customers in Australia, with particular reference to review processes currently underway in Queensland, Victoria and Tasmania.

The project includes involvement from:

- Solar Citizens
- Alternative Technology Association
- Australian Solar Council
- Total Environment Centre
- Clean Energy Council
- Tasmanian Renewable Energy Alliance

This bibliography and other project outputs can be downloaded from [http://backroad.com.au/?page\\_id=97](http://backroad.com.au/?page_id=97)

Comments, additions and suggestions would be welcome. Please contact [jack.gilding@backroad.com.au](mailto:jack.gilding@backroad.com.au)

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This annotated bibliography is intended to provide a guide to the most relevant sources in relation to the setting of feed-in tariffs in Australia. It includes:

- Official documents arising from the processing of setting FITs in various jurisdictions, including terms of reference, interim and final reports and determinations.
- Submissions to jurisdictional processes, focussing particularly on those which make specific arguments about components that need to be taken into account to determine a fair and reasonable FiT.
- Policy and documents which provide detailed research and information on methodology for determining FiTs. Selected overseas documents have been included where they usefully address methodological issues, but the emphasis is on research and information in the context of the Australian electricity market.

References added since version 1.0 of this bibliography are sidebarred like this.

- AEMC 2015a, *Local Generation Network Credits*, AEMC  
 Webpage for the proposed rule change. See also the Information Sheet {AEMC 2015b}, the Consultation Paper {AEMC 2015c}, the original proposal {Oakley Greenwood 2015} and the summary article at {Byrne 2015}.  
<http://www.aemc.gov.au/Rule-Changes/Local-Generation-Network-Credits>
- AEMC 2015b, *Local Generation Network Credits Information Sheet*  
 2 page summary by AEMC of proposed rule change {Oakley Greenwood 2015}.  
<http://www.aemc.gov.au/getattachment/2f203e91-ea96-48a4-baa1-201f5d4e9ca1/Information-sheet.aspx>
- AEMC 2015c, *Consultation Paper: National Electricity Amendment (Local Generation Network Credits) Rule 2015*  
 The Consultation Paper provides a summary of the rule change request {Oakley Greenwood 2015}, describes the assessment framework that the AEMC will use in assessing the rule change request and identifies a number of questions and issues to facilitate public consultation.  
<http://www.aemc.gov.au/getattachment/ab1269b8-cde9-4610-b819-747a47267558/Consultation-paper.aspx>
- AEMO 2012, *Rooftop PV Information Paper: National Electricity Forecasting 2012*  
 Developed as input to AEMO's National Electricity Forecasting Report, this paper provides current and projected PV installed capacity, energy production and maximum demand for each of the 5 NEM regions. In the mainland states solar PV is estimated to be operating at 28%-38% of capacity at times of maximum network demand.  
<http://www.aemo.com.au/Reports-and-Documents/Information-Papers/Rooftop-PV-Information-Paper-National-Electricity-Forecasting>
- ASC 2015, *Submission to the Queensland Productivity Commission: Inquiry into Solar Feed-in Pricing*, Australian Solar Council & Energy Storage Council  
 Argues for factors that should be considered by the QPC in setting a "Fair Export Price" including externalities such as health benefits.  
[http://www.qpc.qld.gov.au/files/uploads/2015/11/Solar-Inquiry-Submission\\_Australian-Solar-Council-Energy-Storage-Council.pdf](http://www.qpc.qld.gov.au/files/uploads/2015/11/Solar-Inquiry-Submission_Australian-Solar-Council-Energy-Storage-Council.pdf)
- ASC 2016a, *Solar Feed-in Tariff Inquiry: letter to Queensland Productivity Commission*, John Grimes, Australian Solar Council, 20 Apr 2016  
<http://backroad.com.au/wp-content/uploads/2016/04/ASC2016-04-20-ASC-QPC-submission.pdf>
- ATA 2012, *Submission by Alternative Technology Association on QCA's Issues Paper on Solar Feed-in Tariffs: 'Estimating a Fair and Reasonable Solar Feed-in Tariff for Queensland'*, 14 Sep 2012  
 Provides a rationale for why FiTs should be regulated and discusses the components of a 'value stack' that add up the various benefits of exported solar energy. Detailed discussion of merit order effect and suggested mechanism for including it in a FiT.
- ATA 2013, *Submission by Alternative Technology Association on IPART's Review of Solar Feed-in Tariffs 2013 to 2014*, 7 Jun 2013  
 Argues that the impact of solar PV in reducing wholesale prices via the merit order effect is well documented and should be taken into account in setting a FiT. Notes that under the current voluntary arrangements, NSW retailers are offering either no FiT or a FiT below or at the lower part of the range recommended by IPART. Vertical integration of retailers (retailers also owning generation facilities) provides a motivation for retailers to keep FiTs low and wholesale energy prices high. Argues for reintroduction of mandatory regulation of FiTs.
- ATA 2014, *Submission by Alternative Technology Association on the ESC Draft Determination – Victorian Feed-in Tariff 2014*, 4 Jul 2014  
 Provides examples from SP AusNet and AusGrid of existing methodology used to calculate avoided Transmission Use of System charges as a result of distributed generation. Also references AEMO finding that PV contributes about a third of nameplate rating during the highest demand period. On the basis of this, ATA refutes the ESC's statement that "benefits of this kind have not been substantiated".
- ATSE 2009, *The Hidden Costs of Electricity: Externalities of Power Generation in Australia*, Australian Academy of Technological Sciences and Engineering, Mar 2009

This Academy study addresses the external social and environmental costs – the externalities – that accompany all electricity generating technologies. These are costs not accounted for in the market price of electricity arising from impacts on, for example, climate, human health, crops, structures and biodiversity. Until identified, and then if possible quantified in monetary terms, they remain hidden, playing a limited role in technology selection. The ATSE study builds on the methodology of the European ExternE project and applies it to Australian conditions.  
<http://www.atse.org.au/content/publications/reports/energy/hidden-costs-electricity.aspx>

- Byrne 2015, *A call to value local energy in Australia's future grid*, Mark Byrne 11 Dec 2015  
An explanation of the rule change request to the AEMC from the Total Environment Centre, the City of Sydney and the Property Council of Australia which would recognise the benefits to networks and consumers of energy generated and consumed in the same area, avoiding the infrastructure costs and line losses from long transmission lines and big zone substations.  
<http://reneweconomy.com.au/2015/a-call-to-value-local-energy-in-australias-future-grid-65757>
- Carter 2013, *Rooftop solar is growing up*, Lucy Carter, Business Spectator, 25 Apr 2013  
Argues that the end of premium FiTs is a sign of maturity in the solar industry. Future policy should focus on encouraging solar owners to implement the technology in ways which reduce network costs, for example by different orientation and using battery storage to export when energy is most valuable.  
<http://www.businessspectator.com.au/article/2013/4/25/solar-energy/rooftop-solar-growing>
- CEC 2013a, *CEC Supplementary Submission to the QCA Draft Report: Estimating a Fair and Reasonable Solar Feed-in Tariff for Queensland*, Clean Energy Council 1 Mar 2013  
Revises the calculations of the fair and reasonable retailer payments to solar PV owners using the new data available in the Draft Determination.  
<http://www.cleanenergycouncil.org.au/dam/cec/policy-and-advocacy/submissions/solar-feed-in-tariffs/Submission-to-QCA-Draft-Report-Supplementary-1-March-2013/submission%20to%20QCA%20Draft%20Report%20-%20supplementary%20-%201%20March%202013.pdf>
- CEC 2013b, *Clean Energy Council submission to the Tasmanian Govt Position Paper: Tasmanian Energy Market Reform: Market and Regulatory Frameworks*, Clean Energy Council, 22 Mar 2013  
Argues for the continuation of existing FiTs and the protection of existing solar owners in the context of introducing retail competition to Tasmania.  
<http://www.cleanenergycouncil.org.au/dam/cec/policy-and-advocacy/submissions/solar-feed-in-tariffs/Submission-re-Sale-of-Aurora-22-March-2013/Submission%20re%20sale%20of%20Aurora%2022%20March%202013.pdf>
- CEC 2013c, *Clean Energy Council submission to the ESCoSA 2013 Determination of Solar Feed-in Tariff: Draft Price Determination*, Clean Energy Council, April 2013  
Argues that the proposed basis for calculating a South Australian FiT is too narrow and would result in solar owners subsidising electricity retailers and/or other customers.  
<http://www.cleanenergycouncil.org.au/dam/cec/policy-and-advocacy/submissions/solar-feed-in-tariffs/Submission-to-ESCoSA-Draft-FiT-Determination-April-2013-v3/submission%20to%20ESCoSA%20Draft%20FiT%20determination%20-%20April%202013%20v%203.pdf>
- CEC 2013d, *Clean Energy Council submission to the Tasmanian Government Issues Paper: Feed-in Tariffs: Transition to Full Retail Competition*, Clean Energy Council 7 Jun 2013  
Argues that the current FiT is not regressive. Argues for a 5 year grandfathering of existing 1:1 tariff. Suggests safeguard for the closure of the existing 1:1 scheme. Identifies metering problem for solar owners in Tasmania. Suggests factors that should be included in the terms of reference for the FiT review.  
<http://www.cleanenergycouncil.org.au/dam/cec/policy-and-advocacy/submissions/solar-feed-in-tariffs/Submission-re-Tasmanian-FiTs-Transition-to-FRC-7-June-2013/Submission%20re%20Tasmanian%20FiTs%20%20transition%20to%20FRC%207%20June%202013.pdf>
- CEC 2013e, *Clean Energy Council submission to the IPART review of solar feed-in tariffs*, Clean Energy Council 7 Jun 2013  
“The New South Wales approach of not regulating minimum feed in tariffs payments to customers has failed. Not one electricity retailer is paying the amount that IPART has determined is the financial gain to Standard retailers.” Calls on the NSW Government to mandate a minimum legal feed in tariff.  
<http://www.cleanenergycouncil.org.au/dam/cec/policy-and-advocacy/submissions/solar-feed-in-tariffs/CEC-Submission-New-South-Wales-FiTs-7-June-2013/CEC%20Submission%20New%20South%20Wales%20FiTs%207%20June%202013.pdf>

- CEC 2013f, *Clean Energy Council submission to the ESCoSA Issues Paper: Review of the Solar Feed-in Tariff Premium*, Clean Energy Council, 12 Jul 2013  
 Argues against the deregulation of FiTs in South Australia. "In summary, the approach considered by the Issues Paper would be unfair to solar households and more expensive for other electricity consumers."  
<http://www.cleanenergycouncil.org.au/dam/cec/policy-and-advocacy/submissions/solar-feed-in-tariffs/Submission-to-ESCoSA-Review-of-Solar-FiT-Premium-12-July-2013/submission%20to%20ESCoSA%20Review%20of%20solar%20FiT%20premium%20-%2012%20July%202013.pdf>
- CEC 2013g, *Clean Energy Council submission to the ESC Draft Decision: Minimum Electricity Feed-in Tariffs*, Clean Energy Council, 18 Jul 2013  
 In the context of imminent completion of smart meter rollout in Victoria, the CEC argues for an opt-in experiment with a time-varying FIT based on wholesale electricity prices. Argues for a mandated FIT that is technology neutral, time-varying and location specific.  
<http://www.cleanenergycouncil.org.au/dam/cec/policy-and-advocacy/submissions/solar-feed-in-tariffs/CEC-Submission-to-Victorian-ESC-Draft-Decision-on-Feed-in-Tariffs-18-July-2013/CEC%20Submission%20to%20Victorian%20ESC%20draft%20decision%20on%20feed-in%20tariffs%2018%20July%202013.pdf>
- CEC 2013h, *Clean Energy Council submission to the Tasmanian Economic Regulator: A Fair and Reasonable Feed-in Tariff for Tasmanian Small Customers*, Clean Energy Council, 2 Oct 2013.  
 A submission in response to the OTTER draft report on FiTs. Argues that the Tasmanian government should:
- Recognise the benefits of distributed generation and storage and that aligning incentives with costs and benefits will encourage efficient investment and reduce electricity costs for everyone.
  - Base the feed-in tariff on the system-wide benefits of distributed generation and storage.
  - Support the staged introduction of smart meters, commencing with solar customers and others who choose to opt in.
  - Regulate for benefit-reflective feed-in tariffs.
  - Regulate to allow distributed generation and storage to compete on fair terms, especially at critical peak periods.
  - Provide access to information for early adopters of time of use pricing.
  - Reduce or remove barriers to competition by distributed generation and storage.
- CEC 2014a, *Clean Energy Council submission to the IPART 2014/15 review of solar feed-in tariffs*, Clean Energy Council Jan 2014  
 Argues for benefit-reflective feed-in tariffs to improve network utilisation and ultimately reduce costs for consumers. Argues that it is not in gentailers' financial interest to open up competition for the supply of electricity at critical peak periods and that therefore a regulated minimum FIT is required.  
<http://www.cleanenergycouncil.org.au/dam/cec/policy-and-advocacy/submissions/solar-feed-in-tariffs/CEC-Submission-to-2014-15-Review-of-Solar-Feed-in-Tariffs-Jan-2014/CEC%20Submission%20to%20IPART%202014-15%20Review%20of%20Solar%20Feed-in%20Tariffs%20Jan%202014.pdf>
- CEC 2014b, *Clean Energy Council submission to IPART Draft Report on solar feed-in tariffs*, Clean Energy Council, 1 May 2014  
 Recommends policy approaches that would allow distributed generation to achieve a more competitive market.  
<http://www.cleanenergycouncil.org.au/dam/cec/policy-and-advocacy/submissions/solar-feed-in-tariffs/CEC-submission-to-IPART-draft-report-on-FiTs-May-2014.pdf>
- CEC 2014c, *Clean Energy Council submission to ESC Draft Decision on feed-in tariffs 2015*, Clean Energy Council, 4 Jul 2013  
 Quotes multiple sources supporting or requiring the implementation of time of day based FiTs. Calls on the Victorian state government to implement time of day based FiTs as required by its own policy.  
<http://www.cleanenergycouncil.org.au/dam/cec/policy-and-advocacy/submissions/solar-feed-in-tariffs/CEC-Submission-to-Victorian-ESC-Draft-Decision-on-Feed-in-Tariffs-18-July-2013/CEC%20Submission%20to%20Victorian%20ESC%20draft%20decision%20on%20feed-in%20tariffs%2018%20July%202013.pdf>
- CEC 2015a, *Terms of Reference for IPART review of solar feed-in tariff, letter to NSW Minister for Energy*, Kane Thornton, CEO, Clean Energy Council, 22 May 2015

The CEC welcomes the terms of reference provided to the Independent Pricing and Regulatory Tribunal (IPART) in relation to setting the retailer contribution for the NSW Solar Bonus Scheme, in particular the reference to time of day based FITs.

<http://www.cleanenergycouncil.org.au/dam/cec/policy-and-advocacy/submissions/solar-feed-in-tariffs/Letter-to-Anthony-Roberts-re-ToR-for-IPART-review-May-2015.pdf>

CEC 2015b, *Fact Sheet: Calculating the value of small-scale generation to networks*, Clean Energy Council, 2015

2 page summary of *Calculating the value of small-scale generation to networks* {EY 2015}  
<http://fpdi.cleanenergycouncil.org.au/reports/value-of-small-scale-generation.html>

COAG 2008, *National Principles for Feed-in Tariff Schemes*, 29 November 2008

This is replaced by the updated version at {COAG 2013}.

<http://www.coag.gov.au/node/243>

COAG 2013, *Revised National Principles for Feed-In Tariff Arrangements*, Council of Australian Governments, 17 July 2013

As part of a package of energy market reforms endorsed by COAG on 7 December 2012, COAG agreed that the National Principles for Feed-in Tariff Arrangements be amended to provide for all forms of micro generation technologies to be offered a fair and reasonable tariff and to close premium schemes to new participants by 2014. The revised principles state that consumers with grid-connected micro-generation equipment should receive “*payment for exported electricity which reflects the value of that energy in the relevant electricity market and the relevant electricity network it feeds in to, taking into account the time of day during which energy is exported.*” The principles to ensure fair treatment of micro generation provide that customers should be subject to “*minimum terms and conditions for retail contracts such that they are no less favourable than the terms and conditions for customers without micro generation*” and that the assignment of network tariffs to them “*should be on the basis that they are treated no less favourably than customers without micro generation but with a similar load on the network.*”

<https://www.coag.gov.au/node/507>

COAGEC 2015, Council of Australian Governments Energy Council (COAGEC) Meeting Communiqué, 4 Dec 2015

<https://scer.govspace.gov.au/files/2014/05/Energy-Council-Communique-4-Dec-2015-FINAL.pdf>

Eadie 2013, *Going Solar: Renewing Australia’s electricity options*, Laura Eadie and Cameron Elliott, Centre for Policy Development, April 2013

Going solar, the latest report from CPD’s Sustainable Economy team, takes an open-minded look at the economics of rooftop solar. It finds that all Australians can benefit from high levels of rooftop solar and provides policy recommendations to maximise these benefits.

<http://cpd.org.au/2013/04/going-solar/>

Summary in:

*Rooftop solar reduces the risk of price hikes ... for everyone*, Laura Eadie, *The Conversation* 2 May 2013

<http://theconversation.com/rooftop-solar-reduces-the-risk-of-price-hikes-for-everyone-13831>

ESA 2013, *Who pays for solar energy?* Energy Supply Association of Australia. May 2013

“This paper discusses the need to look at the way we charge consumers for the cost of the networks to make sure everybody pays their fair share.”

[http://www.esaa.com.au/policy/who\\_pays\\_for\\_solar\\_energy](http://www.esaa.com.au/policy/who_pays_for_solar_energy)

ESC 2015a, *Terms of Reference for the Inquiry into the true value of distributed generation to Victorian Consumers*, Robin Scott, Minister for Finance, letter of 4 Sep 2015 to Chair, Victorian Essential Services Commission

<http://www.esc.vic.gov.au/getattachment/0a3f1608-ac62-43a1-83e4-7123262a9851/Terms-of-Reference.pdf>

<http://www.esc.vic.gov.au/Energy/Inquiry-into-the-true-value-of-distributed-generation>

ESC 2015b, *Inquiry into the true value of distributed generation – Proposed Approach Paper*, Victorian Essential Services Commission, 22 Dec 2015

The ESC is proposing to define three elements of public benefit that could flow from the investment in distributed generation:

- The economic benefit of distributed generation to the electricity market and distribution network.
- Any environmental benefit that can be attributed to distributed generation.
- Any other benefits that can be attributed to distributed generation.

The Commission is seeking evidence from stakeholders as to the public benefits and how they can be quantified. Submissions are sought by Fri 12 Feb 2016.

<http://www.esc.vic.gov.au/getattachment/fb536622-1a8e-4b2c-83d7-e25c93915f94/Inquiry-into-the-true-value-of-distributed-generat.pdf>

ESCOSA 2015a, *Retailer-paid solar feed-in tariff to rise in 2016*, Media Release, Essential Services Commission of South Australia, 2 Dec 2015

“ESCOSA has determined a minimum retailer-paid feed-in tariff (R-FiT) of 6.8 cents per kWh for 2016, compared with 5.3 cents per kWh in 2015.”

<http://www.escosa.sa.gov.au/projects/projectdetails.aspx?p=69&id=236>

ESCOSA 2015b, *Retailer feed-in tariff 2016: Decision pursuant to clause 2.1 of the retailer feed-in tariff price determination of December 2014*, Essential Services Commission of South Australia, 2 Dec 2015

Detailed description of the methodology for setting the Retailer FiT for 2016. The decision is informed by independent modelling and advice received from ACIL Allen and is based on:

- the projected wholesale spot price of electricity
- weighted by the net system load profile
- adjusted for avoided network losses, and
- adjusted for market and ancillary services fees.

<http://www.escosa.sa.gov.au/projects/projectdetails.aspx?p=69&id=236>

EY 2015, *Calculating the value of small-scale generation to networks*, Ernst & Young for Clean Energy Council, July 2015

For this work the Clean Energy Council engaged EY to examine international examples and look at the real-world application of methodologies to calculate the value of the contribution of household solar and storage to distribution networks.

See also fact sheet at {CEC 2015b} and ‘Valuation aggregation tool’ on website.

<http://fpdi.cleanenergycouncil.org.au/reports/value-of-small-scale-generation.html>

Farrell 2015, *Economies of scale: Why small solar is better than big solar*, John Farrell, Institute for Local Self-Reliance, 25 Aug 2015

While utilities continue to imply that large-scale solar projects are more economical than small ones, the data is telling another story. In fact, costs for transmission and distribution of utility-scale solar energy may largely undermine the modestly better economics at the point of generation. In other words [Utility Solar May Cost Less, But It's Also Worth Less](#).

<http://reneweconomy.com.au/2015/economies-of-scale-why-small-solar-is-better-than-big-solar-15602>

Frontier 2015, *Shining Rewards: The Value of Rooftop Solar Power for Consumers and Society*, Lindsey Hallock, Frontier Group; Rob Sargent, Environment America Research & Policy Center Reviews 11 recent analyses of the costs and benefits of distributed PV and concludes that PV owners generally delivers greater benefits to the grid and society than they receive through net metering. Identifies 9 categories of benefit and summarises the methodology used in each analysis under each category of benefit.

<http://frontiergroup.org/reports/fg/shining-rewards>

Gilding 2015, *Methodology for determining a fair solar price in Queensland: A response to the QPC issues paper from the advocacy project on the fair value of distributed generation*, Tasmanian Renewable Energy Alliance, 30 Nov 2015

<http://backroad.com.au/wp-content/uploads/2016/04/2015-11-30-QPC-issues-reponse.pdf>

ISF 2014, *Calculating the network value of local generation and consumption*, Report prepared for Total Environment Centre and City of Sydney, E. Langham, J. Rutovitz, C. Cooper and C. Dunstan, Institute for Sustainable Futures, UTS 2014.

Describes four methodologies for assessing the network value of distributed generation. Discusses the advantages and disadvantages of mechanisms for monetising this value via either a Local Use of System charge (LUoS), analogous to existing TUoS and DuoS charges, or via a Virtual Net Metering (VNM) credit. Discusses the metering and billing logistics of implementing these in the context of current NEM arrangements.

<http://www.advocacypanel.com.au/media/docs/Calculating-the-Network-Value-of-Local-Generation-and-Consumption---Stage-1-Final-Report-70870cf6-ac81-4be3-96f1-25c63e569141-0.pdf>

Labrador 2015, *Why rooftop solar may be worth three times price of grid power*, David Labrador, RMI, 30 July 2015

A study by the Maine Public Utility Commission {Maine PUC 2015} valued distributed solar at \$0.33 per kWh. This article summarises the methodology of the study and the political debate

about how to implement the findings. The Maine PUC study included avoided energy costs, avoided generation capacity costs, avoided transmission costs, and avoided natural gas pipeline costs. It also included the added costs of integrating distributed solar power to the grid.  
<http://reneweconomy.com.au/2015/why-rooftop-solar-may-be-worth-three-times-price-of-grid-power-52898>

Maine PUC 2015, *Maine Distributed Solar Valuation Study*, Maine Public Utilities Commission, 1 Mar 2015

“A recently released study commissioned by the Maine Public Utility Commission dropped a bombshell on the electricity world earlier this year, valuing distributed solar at \$0.33 per kWh, far above the state’s prevailing price.”

“The Maine Public Utilities Commission commissioned the study last year at the request of the state legislature. The evaluation included avoided energy costs, avoided generation capacity costs, avoided transmission costs, and avoided natural gas pipeline costs. It also included the added costs of integrating distributed solar power to the grid.”

The study concludes (p6) that the 25 year levelised benefits of \$0.33 per kWh from solar PV consist of 13c of benefits to the electricity system and 20c of environmental and other social benefits.

Volume III contains detailed consideration of implementation options – the policies and mechanisms that could be used to encourage solar PV. It summarises lessons learnt from other states’ experiences with implementing support measures for PV to set out a strategy for least-cost implementation of support measures.

<http://www.nrcm.org/wp-content/uploads/2015/03/MPUCValueofSolarReport.pdf>

RMI blog summary at [http://blog.rmi.org/blog\\_2015\\_07\\_29\\_what\\_is\\_solar\\_power\\_really\\_worth\\_to\\_maine](http://blog.rmi.org/blog_2015_07_29_what_is_solar_power_really_worth_to_maine)

McConnell 2013, *Retrospective modeling of the merit-order effect on wholesale electricity prices from distributed photovoltaic generation in the Australian National Electricity Market*, McConnell et al. Energy Policy, Volume 58, July 2013

“We calculate that for 5 GW of capacity, comparable to the present per capita installation of photovoltaics in Germany, the reduction in wholesale prices would have been worth in excess of A\$1.8 billion over 2009 and 2010, all other factors being equal. We explore the implications of our findings for feed-in tariff policies, and find that they could deliver savings to consumers, contrary to prevailing criticisms that they are a regressive form of taxation.”

<http://www.sciencedirect.com/science/article/pii/S0301421513000797>

audio interview and other related material at

<http://bze.org.au/media/radio/dylan-mcconnell-merit-order-effect-how-renewables-are-reducing-electricity--130427>

McConnell 2015a, *Submission to Essential Service Commission Draft decision paper: Minimum Electricity Feed-In Tariff to apply from 1 January 2016*, Dylan McConnell, Melbourne Energy Institute, July 2015

Argues that the ESC has previously acknowledged that the environmental benefits of reduced carbon emissions from renewable energy were important and were taken into account as the carbon tax was factored into the price of electricity. Since the carbon tax has been abolished an updated methodology for determining a FIT is required which provides credit for the environmental benefit of reduced carbon emissions.

[http://figshare.com/articles/Submission\\_to\\_Essential\\_Service\\_Commission\\_Draft\\_decision\\_paper\\_MINIMUM\\_ELECTRICITY\\_FEED\\_IN\\_TARIFF\\_TO\\_APPLY\\_FROM\\_1\\_JANUARY\\_2016/1495555](http://figshare.com/articles/Submission_to_Essential_Service_Commission_Draft_decision_paper_MINIMUM_ELECTRICITY_FEED_IN_TARIFF_TO_APPLY_FROM_1_JANUARY_2016/1495555)

McConnell 2015b, *Without a carbon price, we need a fairer price for solar*, Dylan McConnell, The Conversation, 30 Jul 2015.

Provides an overview of changing mechanisms to support distributed renewable energy and their impact on solar PV installation rates.

<https://theconversation.com/without-a-carbon-price-we-need-a-fairer-price-for-solar-45368>

Oakley Greenwood 2015, *Local Generation Network Credit Rule Change Proposal*, Submission to: Australian Energy Market Commission

This paper proposes a change in the National Electricity Rules (NER) to require electricity distribution businesses to establish posted tariffs (credits) that reflect the economic benefits that local electricity generation delivers to or imposes on the distribution system. The credit would be based on a measure of the long-term benefits (in the form of capacity support, and avoided energy transportation costs) that the export of energy from an embedded generator provides to customers of distribution businesses. The rule change is proposed by the City of Sydney, the Total Environment Centre and the Property Council of Australia.

<http://www.aemc.gov.au/getattachment/70a314d9-adf6-4d2f-9493-5f53d4f3b6eb/Rule-change-request.aspx>

<http://www.aemc.gov.au/Rule-Changes/Local-Generation-Network-Credits>

- Orme 2015, *Solar cross subsidy theory put to the test*, 14 Sep 2015  
 Discussion of the AER response to SAPN tariff application for a \$100/year additional tariff for solar owners. Includes references to additional data from Vic, SA and WA.  
<https://www.linkedin.com/pulse/solar-cross-subsidy-theory-put-test-simon-orme>
- OTTER 2013a, *Regulated Feed-in Tariff for Tasmanian Small Customers, Draft Report*, Office of the Tasmanian Economic Regulator, Sep 2013  
 Provides the terms of reference and background to the proposed FiT determination for Tasmania to operate from 1 January 2014. Includes review of approach in other jurisdictions. Discusses the direct and indirect impacts that might be considered in setting a FiT. Proposes excluding all indirect impacts.  
<http://bit.ly/ter-draft>  
<http://www.economicregulator.tas.gov.au/domino/otter.nsf/8f46477f11c891c7ca256c4b001b41f2/b713302decf91d0cca257bb8000a655f?OpenDocument#2013%20Feed-In%20Tariff%20Investigation>
- OTTER 2013b, *Regulated Feed-in Tariff for Tasmanian Small Customers, Final Report*, Office of the Tasmanian Economic Regulator, Oct 2013  
 This final report is similar in structure, content and findings to the draft report {OTTER 2013a}. It includes additional comments in response to stakeholder submissions to the draft report.  
<http://bit.ly/ter-draft>
- OTTER 2013c, *Regulated feed-in tariff determination for standard feed-in tariff customers*, Office of the Tasmanian Economic Regulator 6 Dec 2013, *Final Report*  
 Provides the methodology and formula for setting the FiT but not the actual c/kWh rate.  
<http://bit.ly/ter-draft>
- OTTER 2015, *Notice of intention to conduct a Regulated Feed-in Tariff Rate pricing Investigation*, Office of the Tasmanian Economic Regulator, 2 Jul 2015  
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<http://www.energyregulator.tas.gov.au/domino/otter.nsf/a08b00d12c2fae17ca256c4c0020929e/9c46ee94059b20d4ca257d020083a373?OpenDocument#2016%20Regulated%20Feed-in%20Tariff%20Rat>  
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- Pears 2015, *Submission on Victoria's Renewable Energy Roadmap*, Alan Pears, 29 Sep 2015  
 Includes the suggestion of a levy on PV exports to fund clean energy developments, including costs of grid upgrades to facilitate high penetration of distributed generation.
- QPC 2015a, *Terms of Reference, Queensland Productivity Commission, Public Inquiry into a Fair Price for Solar Exports*, Queensland Productivity Commission  
 The terms of reference are notable for the fact that a fair price "is to be determined based on an assessment of public and consumer benefits from solar generated electricity" rather than just benefit to retailers as has been the case to date in other jurisdictions. The terms of reference also acknowledge the state government's target for "one million rooftops or 3000MW of solar panels by 2020" and the potential contribution of battery storage at the household level to reducing peak demand.  
<http://www.qpc.qld.gov.au/files/uploads/2015/08/Terms-of-Reference-Fair-Solar-Price.pdf>
- QPC 2015b, *Issues Paper, Solar feed-in Pricing in Queensland*, Queensland Productivity Commission  
 Contains extensive background on the cost and impact of the (now closed) Solar Bonus Scheme and its 44c FiT. Contains a good discussion of reasons a FiT should be regulated and consideration of factors including fairness, neutrality and simplicity. Identifies 9 factors that might be taken into account in setting a FiT.  
<http://www.qpc.qld.gov.au/inquiries/solar-feed-in-pricing/>
- RMI 2013, *A Review of Solar PV Benefit & Cost Studies*, eLab, Rocky Mountain Institute, 2nd Edition, Sep 2013  
 "The objective of this e-Lab discussion document is to assess what is known and unknown about the categorization, methodological best practices, and gaps around the benefits and costs of distributed photovoltaics (DPV), and to begin to establish a clear foundation from which additional work on benefit/cost assessments and pricing structure development can be built."  
[http://www.rmi.org/elab\\_empower](http://www.rmi.org/elab_empower)  
 summary of first edition at [http://blog.rmi.org/blog\\_2013\\_07\\_22\\_devil\\_in\\_the\\_details](http://blog.rmi.org/blog_2013_07_22_devil_in_the_details)



- Sioshansi 2015a, *Distributed solar: evil drag on network or misunderstood blessing?* Fereidoon Sioshansi on 27 August 2015  
References several recent US studies on the value of distributed solar PV. Taking into account financial, social and environmental benefits, the studies find that the value of distributed solar PV is greater than prevailing retail tariffs.  
<http://reneweconomy.com.au/2015/distributed-solar-evil-drag-on-network-or-misunderstood-blessing-99680>
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Describes the boom in distributed solar PV and the results of studies on the value of exported solar energy. Discusses the challenges these pose for utility rate setting.  
<http://reneweconomy.com.au/2015/solar-pv-how-to-achieve-net-gain-and-no-pain-98782>
- SKM-MMA 2011, *Value of Generation from Small Scale Residential PV Systems*, Walter Gerardi, Hope Stevens, SKM-MMA, 14 July 2011  
Estimates the wholesale value of exported PV electricity by assessing the time and volume weighted wholesale value. This approach allows the value to be captured based on the time of generation (i.e. during the day, at typically higher than average prices) and the volume produced. Concludes that in NSW, the electricity produced by solar had a weighted wholesale value of 7.8c/kWh.  
Referenced at:  
<http://apo.org.au/resource/value-generation-from-small-scale-residential-pv-systems>  
but no longer available on Clean Energy Council website.
- Solar Citizens 2015a, *Submission to Queensland Solar Feed-In Pricing Inquiry & Submission to Queensland Electricity Pricing Inquiry*, 23 Nov 2015  
Response to the QPC Issues Paper based on a survey of Solar Citizens members.
- SST-ATA 2013a, *Feed-in tariffs for Tasmania, A joint submission in response to "Feed-in Tariffs: Transition to Full Retail Competition – Issues Paper"*, Save Solar Tasmania and Alternative Technology Association, 7 June 2013  
A response to the state government paper {TasGov 2013a}. Critiques a number of points in the Issues Paper and makes the case for greater support for distributed generation in Tasmania. Provides detailed statistical analysis to refute the argument that the FiT is a cross subsidy from poorer to wealthier customers. Includes suggested changes to the terms of reference for Tasmanian Economic Regulator review to set a FiT to come into effect from January 2014.  
[http://www.solarcitizens.org.au/tas\\_docs](http://www.solarcitizens.org.au/tas_docs)  
direct: <http://d3n8a8pro7vhmx.cloudfront.net/solarcitizens/pages/110/attachments/original/1381291445/2013-10-02-TER-SST-submission-v04.pdf?1381291445>
- SST-ATA 2013b, *Fair feed-in tariffs for Tasmania, A joint submission in response to the Tasmanian Economic Regulator Draft Report of September 2013*, 2 Oct 2013  
Provides responses to specific questions raised in the draft report {OTTER 2013a}. Also makes a detailed case for consideration of location specific FiTs.  
[http://www.solarcitizens.org.au/tas\\_docs](http://www.solarcitizens.org.au/tas_docs)
- TasGov 2013a, *Feed-in Tariffs: Transition to Full Retail Competition – Issues Paper*, Energy Reform Project, Tasmanian Government, May 2013  
Sets out proposed arrangements to replace the 1:1 FiT offered by Aurora with a regulated FiT that would apply to all retailers, in preparation for the introduction of full retail competition. Counters various arguments in support of a premium FiT.  
<http://www.electricity.tas.gov.au/issues-paper-feed-in-tariffs-under-full-retail-competition/>  
[http://www.premier.tas.gov.au/media\\_room/media\\_releases/public\\_consultation\\_on\\_feed\\_in\\_tariff](http://www.premier.tas.gov.au/media_room/media_releases/public_consultation_on_feed_in_tariff)
- TasGov 2013b, *Supplementary Paper: Feed-in Tariffs under Full Retail Competition*, Energy Reform Project, Tasmanian Government, 3 Jun 2013  
Additional examples of impact of feed-in tariff arrangements under different scenarios.  
<http://www.electricity.tas.gov.au/supplementary-paper-feed-in-tariffs-under-full-retail-competition/>
- TasGov 2013c, *Feed-in Tariffs: Transition to Full Retail Competition – Response to Consultation*, Energy Reform Project, Tasmanian Government, Aug 2013  
Provides detailed responses to various points made in public submissions to the Issues Paper.
- TasGov 2013d, *Feed-in Tariffs: Transition to Full Retail Competition – Final Position Paper*, Energy Reform Project, Tasmanian Government, Aug 2013  
Final report following consultation process. The major change was the extension of the legacy tariff from 3 to 5 years. Sets out transition arrangements.

[http://www.treasury.tas.gov.au/domino/DTF/DTF.nsf/LookupFiles/Feed-in-Tariffs-Transition-Full-Retail-Competition-Position-Paper.pdf/\\$file/Feed-in-Tariffs-Transition-Full-Retail-Competition-Position-Paper.pdf](http://www.treasury.tas.gov.au/domino/DTF/DTF.nsf/LookupFiles/Feed-in-Tariffs-Transition-Full-Retail-Competition-Position-Paper.pdf/$file/Feed-in-Tariffs-Transition-Full-Retail-Competition-Position-Paper.pdf)

TREA 2015b, *Initial Submission to OTTER: Regulated FiT investigation*, Tasmanian Renewable Energy Alliance, 18 Dec 2015

Argues that the Regulator should use a broad interpretation of its terms of reference and sets out benefits of distributed generation that should be taken into account in setting a FiT.

<http://tasrenew.org.au/wp-content/uploads/2016/04/2015-12-18-Tas-FiT-submission.pdf>

TREA 2016a, *Valuing Solar for Tasmania's Future: TREA Submission to the Office of the Tasmanian Economic Regulator in response to the Draft Investigation Report on the Regulated Feed-In Tariff Rate*, Tasmanian Renewable Energy Alliance, 15 March 2016

<http://tasrenew.org.au/wp-content/uploads/2016/03/2016-03-15-TREA-FiT-submission.pdf>

Wood 2014, *Fair Pricing for Power*, Tony Wood & Lucy Carter, Grattan Institute, Jul 2014

Argues that Australian electricity prices are unnecessarily high and are unfair because some users (in particular owners of air conditioners and solar PV) do not pay the cost their usage imposes on the network. Suggests that it would be fairer to introduce critical peak pricing for all domestic consumers and locational pricing for areas of network constraint. Discusses the practical problems of introducing these changes including the cost of smart meters and the issues around customer education and political acceptability.

<https://grattan.edu.au/report/fair-pricing-for-power/>