



**Solar feed-in tariffs in NSW:
A fair price needed for prosumers**

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1. Introduction

1.1 The Public Interest Advocacy Centre

The Public Interest Advocacy Centre (PIAC) is an independent, non-profit law and policy organisation that works for a fair, just and democratic society, empowering citizens, consumers and communities by taking strategic action on public interest issues.

PIAC identifies public interest issues and, where possible and appropriate, works co-operatively with other organisations to advocate for individuals and groups affected. PIAC seeks to:

- expose and redress unjust or unsafe practices, deficient laws or policies;
- promote accountable, transparent and responsive government;
- encourage, influence and inform public debate on issues affecting legal and democratic rights;
- promote the development of law that reflects the public interest;
- develop and assist community organisations with a public interest focus to pursue the interests of the communities they represent;
- develop models to respond to unmet legal need; and
- maintain an effective and sustainable organisation.

Established in July 1982 as an initiative of the (then) Law Foundation of New South Wales, with support from the NSW Legal Aid Commission, PIAC was the first, and remains the only broadly based public interest legal centre in Australia. Financial support for PIAC comes primarily from the NSW Public Purpose Fund and the Commonwealth and State Community Legal Services Program. PIAC also receives funding from NSW Trade & Investment for its work on energy and water, and from Allens for its Indigenous Justice Program. PIAC also generates income from project and case grants, seminars, consultancy fees, donations and recovery of costs in legal actions.

1.2 Energy + Water Consumers' Advocacy Program

This program was established at PIAC as the Utilities Consumers' Advocacy Program in 1998 with NSW Government funding. The aim of the program is to develop policy and advocate in the interests of low-income and other residential consumers in the NSW energy and water markets. PIAC receives policy input to the program from a community-based reference group whose members include:

- Council of Social Service of NSW (NCOSS);
- Combined Pensioners and Superannuants Association of NSW;
- St Vincent de Paul (NSW);
- Ethnic Communities Council NSW;
- Rural and remote consumers;
- Retirement Villages Residents Association;
- Physical Disability Council NSW; and
- Affiliated Residential Park Residents Association.

2. The benefits of household solar PV in NSW

With approximately 350,000 households across in NSW¹ (and 1.2 million across Australia) having installed solar photovoltaic (PV) panels on their roofs, we have entered the age of the ‘prosumer’ – consumers who are also producers of energy. As the proportion of households producing their own electricity and heating water at home continues to rise, the costs and benefits need to be assessed, particularly to provide the context for tariff regulation.

The benefits of PV need to be evaluated against the National Electricity Objective (NEO) of promoting ‘efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity’.

There are a number of benefits of renewable energy in general. Renewables lower wholesale prices² as a result of the merit order effect; in particular, solar in New South Wales has the potential to reduce peak pricing in summer; if they are well located, renewable generation can enable more efficient use of networks (especially avoiding transmission losses), and renewables reduce the emissions intensity of the National Electricity Market (NEM), benefiting the Australian economy as the world moves to constrain carbon emissions.

Then there are the benefits of household solar in particular. Rooftop PV allows prosumers - individual consumers - to participate in electricity markets thus creating greater competition in energy markets. It also encourages households and small generators to focus on efficiency of their operations, especially if they are on a net metering tariff.

These are the direct benefits for the NEM, but there are also broader social and environmental benefits, especially job creation and health benefits. The jobs created as a result of renewable energy policies are both an economic and social benefit. In addition to the approximately 24,000 direct jobs³ that currently exist in renewable energy, there are the indirect jobs and multiplier effects that have resulted from the growth of the renewable energy industry in Australia since 2007.

In terms of other social benefits, the most significant are the health co-benefits of coal-fired generation being replaced by clean renewable generators.⁴ The Australian Academy of Technological Sciences and Engineering (ATSE) estimated in 2009 that the cost of the adverse health impacts from coal-fired electricity generation (including associated respiratory, cardiovascular, and nervous system diseases) was \$2.6 billion annually.⁵ In comparison, the process of renewable generation does not have deleterious health impacts.⁶

¹ IPART (2014) *Solar feed-in tariffs*, Sydney.

² Gilmore J & Giacomantonio C (2014) *RET policy analysis*, ROAM Consulting Pty Ltd for the Clean Energy

² Gilmore J & Giacomantonio C (2014) *RET policy analysis*, ROAM Consulting Pty Ltd for the Clean Energy

³ Department of Prime Minister & Cabinet (2014) *RET Review: Call for Submissions paper*, Commonwealth of

³ Australia Department of Prime Minister & Cabinet (2014) *RET Review: Call for Submissions paper*, Commonwealth of

⁴ Physicians for Social Responsibility (2012) *Coal's Assault on Human Health* Physicians for Social

⁴ Physicians for Social Responsibility (2012) *Coal's Assault on Human Health* Physicians for Social

Responsibility.

⁵ Biegler T, Zhang Dong-Ke & Australian Academy of Technological Sciences and Engineering. (2009) *The hidden costs of electricity: externalities of power generation in Australia*, Australian Academy of Technological Sciences and Engineering.

⁶ National Health and Medical Research Council (NHMRC) (2014) *Systematic review of the human health effects of wind farms*, NHMRC.

The environmental benefits of renewable energy generation include fewer greenhouse gas emissions, less water, air, noise and land pollution and reduced impacts on biodiversity (compared with fossil fuel powered electricity generation).⁷

It is important to note that the 'externalities' of health, social and environmental costs not accounted for in the market price of electricity or fuel are nonetheless borne by the community. In addition, these costs are disproportionately borne by low-income and other vulnerable members of the Australian community, especially in places such as the Hunter Valley.⁸ Therefore, *replacing fossil fuel generation by renewable generation is of most value to low income and vulnerable Australians.*

For all these reasons PIAC contends that the rise of household solar installations and prosumers supports the National Electricity Objective.

In fact, these benefits were previously acknowledged and subsidised feed-in tariffs (FiTs) introduced as an industry development mechanism to support PV installations. PIAC does not support a return to subsidised FiTs or contend there should be a 1:1 FiT, but does argue that a *fair price should be paid to NSW consumers who are generating electricity which is fed back into the NEM.*

2.1 The current situation: a failure of competition

The current situation in NSW is one of significant inequity resulting from the lack of a mandatory feed-in tariff. PIAC understands that IPART has been constrained by decisions made at a political level, including in its terms of reference for the 2014/15 Solar Feed-In Tariff Review, however it is worth examining the status of retailer performance against IPART's 2013/14 voluntary benchmark FiT range.

The results are clear that 30% of retailers don't offer a voluntary feed-in tariff and 50% do not offer a FiT within IPART's recommended range for 2013/14. In addition, there is no evidence of retailer innovation with regards to FiTs given that all are fixed and none are above IPART's benchmarks. In PIAC's view this is either a failure of retailer compliance or of regulatory approach – or both. A compliance failure of 50% is a strong sign that the voluntary benchmark approach has been unsuccessful.

The consequences of this approach are serious for NSW households that have installed solar PV – and indeed for the functioning of the NEM. It means that some retailers are receiving free or discounted electricity from households in NSW. Effectively households are subsidising the private sector. To quote analyst Nigel Morris:

retailers are clearly making a profit selling the solar generated electricity from one household (which they buy for 6c/kWh, or 8c/kWh, or sometimes nothing at all) to the next-door neighbour at the full retail price, sometimes hugely inflated if they are on time-of-use tariffs.

⁷ For example, see the Sustainable Energy for All initiative: <http://www.se4all.org/our-vision/our-objectives/renewable-energy/>.

⁸ Armstrong F, Haworth E, Tait P & Barker H. *Health and Energy Policy*, Climate and Health Alliance; Colagiuri R, Cochrane J, Girgis S (2012) *Health and Social Harms of Coal Mining in Local Communities: Spotlight on the Hunter Region*, Beyond Zero Emissions.

Morris estimates that profit could be up to \$10 million.⁹ However, as there is no data available, there is no means of ascertaining how well the market is operating. *As the impacts of the voluntary approach have not been monitored or assessed measuring its success or failure becomes problematic.* PIAC recommends that monitoring and reporting is developed as soon as possible.

PIAC notes that for consumers on a time-of-use tariff, the low net FiT tariff is a perverse incentive to minimise exports to the grid at peak times – exactly when solar should be exported, reducing wholesale costs for all consumers.

As consumers are subsidising retailers, this is a clear case of regulatory failure. A voluntary benchmark and competition approach has not delivered positive results for NSW consumers and there are no signs the industry is able to deliver in the short to medium term. Therefore PIAC believes that the NSW Government should introduce a mandatory minimum solar FiT. PIAC's view is that IPART should be instructed to set a value for this FiT based on equity and the fair benefits of renewable energy to all consumers.

PIAC believes there is little danger of IPART setting a mandatory minimum rate too high such that it would 'lead to less competition and/or higher retail prices for PV customers'¹⁰. This has not been an issue in other states – or internationally.

In determining a minimum FiT IPART should seek to minimise unintended consequences such as windfall profits to retailers or others in the delivery chain or the creation of incentives for behaviour change, such as cited above, which might benefit the individual to the detriment of other consumers.

Recommendation 1

That the NSW Government mandate a minimum solar FiT – and instruct IPART to set a value for this tariff based on equity and the fair benefits of renewable energy to consumers.

Recommendation 2

That IPART monitor and report on consumer acceptance of voluntary FiT offers, including the level of cross-subsidy that NSW households are providing to electricity retailers.

3. 2014-15 Decision

Regardless of the issue of mandatory versus voluntary FiTs, the result of IPART's 2013/14 benchmark range has been a series of inequities for households with solar PV installed after 2011 in comparison with:

- prosumers who installed prior to the subsidised FiT being removed (at rates of either 20c or 60c/kWh)
- prosumers in other states (the majority of which have higher value mandatory FiTs), and
- the effective price retailers pay for generation.

⁹ Nigel Morris (2014) <http://reneweconomy.com.au/2014/australias-big-fat-solar-policy-failure-exposed-90485>.
¹⁰ IPART (2014) *Solar feed-in tariffs*, Sydney.

PIAC disagrees with the proposition that any retailer would 'be indifferent to whom it purchases its electricity from'¹¹. This goes against the basic premise of integrated gentailers – the big three retailers all have opted to own significant generation assets in order to secure their supply chain and earn profits from generation. Therefore other generators (however small) are competition for these retailers who have a clear conflict of interest to act against a broader public benefit. Solar PV is a particular competitive threat because as Productivity Commission noted in its 2013 networks report, peak demand events (less than 40 hours a year or less than 1% of the time) account for about 25% of retail electricity bills in NSW.¹² It can therefore be assumed that a high percentage of generators profits are made during peak periods – when solar in NSW is usually generating at a high proportion of its capacity. Live and historical performance of PV installations by time of day can be found at the Australian Photovoltaic Institute (APVI) Solar Map.¹³ The APVI has also published a report *Impacts of PV, AC and Other Technologies and Tariffs on Consumer Costs* that inter alia canvasses this issue.¹⁴

3.1 Benchmark range: the need for more a sophisticated method

The retail cost of daytime electricity from the grid is about 22 to 29c per kWh compared with about 6 to 8c per kWh the three large gentailers offer for household-generated PV. As mentioned, PIAC does not seek a 1:1 tariff, but agrees with the contention of the Clean Energy Council and the Australian Solar Council that retailers should pay benefit-reflective feed-in tariffs that are:

- technology-neutral
- time-varying and include a critical peak payment, and
- (ideally) location specific.

PIAC is pleased to see that IPART's wholesale market value method recognises time of use pricing. However, PIAC believes the wholesale value alone is insufficient. *PIAC recommends that IPART goes further to develop a fair and effective price for household PV generation. At a minimum, avoided transmission and distribution losses, avoided NEM fees, and avoided network investment should be included (recognising the rule change proposal currently being undertaken by the AEMC for more cost reflective pricing should address this).*

PIAC's preference would be for IPART to go further and develop a method that also considers the value of externalities, the planning value and the broader societal costs and values. In doing so IPART could look to Minnesota's best practice [Value of Solar Tariff Methodology](#). In summary, in Minnesota:

The solar market price includes eight separate factors, but the largest four account for the lion's share of the value: 25 years of avoided natural gas purchases, avoided new power plant purchases, avoided transmission capacity, and avoided environmental costs.

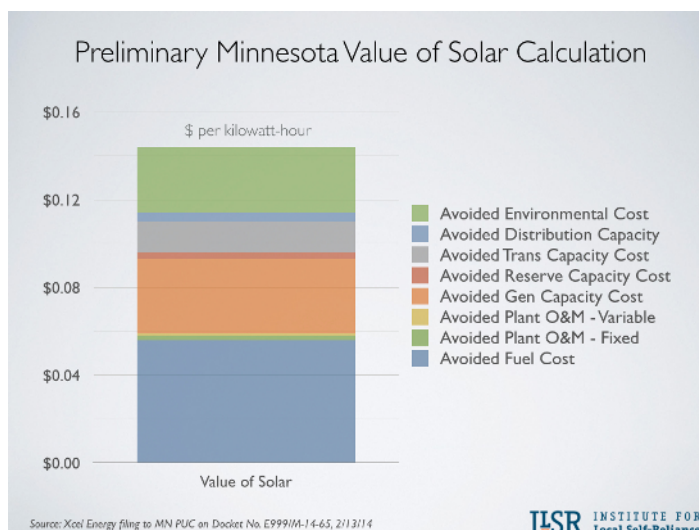
The value of avoided fuel cost recognizes that utilities cannot buy natural gas on long-term contracts the way they can buy fixed-price solar energy, and it internalizes the risk of fuel variability that utilities have previously laid on ratepayers.¹⁵

¹¹ IPART (2014) *Solar feed-in tariffs*, Sydney.

¹² Productivity Commission (2013) *Electricity Network Regulatory Frameworks Inquiry Report*, Canberra
<http://pv-map.apvi.org.au>.

¹³ <http://apvi.org.au/impacts-of-pv-other-technologies-and-tariffs-on-consumer-costs/>.

¹⁴ <http://cleantechnica.com/2014/03/17/minnesotas-value-solar-make-everyone-winner/#065UJT0WQz43OEj.99>,
¹⁵ accessed 13 May 2014.



PIAC is strongly of the view that IPART's current approach is excessively narrow and by failing to include externalities it does NSW consumers a disservice, regardless of whether or not they have PV on their roof. PIAC is also concerned that the 2014/15 range assumes that the carbon price will be removed which is not consistent with, for example, gas determinations that include a price with and without carbon.

Recommendation 3

That IPART develop a best practice method for setting Feed-in Tariffs in NSW based on full and fair approach which takes into account externalities, the planning value and the broader societal costs and values.

Until such a method is developed, PIAC recommends that IPART use a minimum price for its benchmark range consistent with the mandated FiTs in other states (7.6c/kWh in South Australia, 8c/kWh in Victoria and Queensland)¹⁶ of 8c/kWh. This would be an interim price that establishes equity for NSW prosumers with their counterparts in other states as a starting point, until a more sophisticated method for a mandatory FiT is developed.

Recommendation 4

That as an interim measure until a best practice method is developed, IPART use a minimum price for its benchmark range consistent of 8c/kWh for 2014/15.

¹⁶ <http://www.aemc.gov.au/media/docs/2013-Residential-Electricity-Price-Trends-Final-Report-723596d1-fe66-43da-aeb6-1ee16770391e-0.PDF>