Chapter 1

Introduction

Referral to the Committee

1.1 On 16 June 2008, the Senate referred the Renewable Energy (Electricity) Amendment (Feed-in-Tariff) Bill 2008 (hereafter 'the bill') to the Senate Environment, Communications and the Arts Committee for inquiry and report by 14 October 2008. On 25 September 2008 the Senate granted an extension of time to report until 10 November 2008.

1.2 The committee advertised the inquiry in the *Australian* newspaper. Details of the inquiry were placed on the committee's website and the committee also wrote to a number of organisations and stakeholder groups inviting written submissions by 15 August 2008.

1.3 The committee received submissions from 129 individuals and organisations, as listed at Appendix 1. The committee also held public hearings in Sydney on Monday 8 September, in Melbourne on Tuesday 9 September and in Canberra on Thursday, 16 October 2008. A list of those who gave evidence at this hearing is at Appendix 2. The broad majority of submissions were supportive of feed-in tariffs, as discussed in chapter 3. The committee thanks all those who assisted with its inquiry.

What is a Feed-in Tariff?

1.4 Most electricity is generated by a small number of large power stations. Their energy is distributed, through the electricity grid, to many consumers. However, it is possible for electricity to be produced by small dispersed generating units, which are often based on renewable energy technologies such as wind or photovoltaic cells.

1.5 A feed-in tariff (FIT) is a policy mechanism used to encourage the use of both small dispersed generating capacity and large 'utility-scale' generators. A FIT is a rate, usually set by a regulator or government, which electricity retailers or a regulator are required to pay to particular electricity generators who want to feed power into the electricity grid. A FIT will:

> put a legal obligation on utility companies to buy electricity from renewable energy producers at a premium rate, usually over a guaranteed period, making the installation of renewable energy systems a worthwhile and secure investment for the producer. The extra cost is shared among all energy users, thereby reducing it to a barely noticeable level.[1]

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1 World Future Council, *Feed-In Tariffs – A guide to one of the world's best environmental policies*, World Future Council, Hamburg – *Submission* 30, Attachment 1, p. 6.

1.6 There are at least two main reasons why a FIT may be set.[2] It may be intended to correct a market failure, such as a lack of a price signal reflecting the environmental harm caused by greenhouse gas emissions. It may also be used to stimulate the development of particular electricity generating technologies, such as photovoltaic cells. Often these two reasons are closely related, and the objectives of a FIT are discussed further in chapter 2.

The bill

1.7 The bill seeks to amend the *Renewable Energy (Electricity) Act 2000* (hereafter 'the Act') to establish a national FIT law. The object of the bill is to support the greater commercialisation of renewable energy technologies by:

> (a) providing specifically tailored support for a range of renewable energy technologies that are currently not adequately assisted by the mandatory renewable energy target;
>
> (b) requiring electricity retailers to permit owners of qualifying generators to supply the electricity grid with electricity generated from selected renewable energy sources;
>
> (c) providing a payment to owners of qualifying generators for the renewable electricity which they produce from renewable energy sources installed after the commencement of this Act;
>
> (d) establishing an effective monitoring regime to monitor the extent of production of renewable electricity by owners of qualifying generators.[3]

Issues to be considered

1.8 FITs are complex policy instruments that are challenging to successfully design and implement.[4] The many issues that must be carefully addressed include:

- Whether to adopt gross or net metering as the basis for paying a premium tariff;
- Whether existing renewable energy generators should be eligible for the new tariff;
- What renewable energy sources should qualify, and what premium tariffs each should receive;
- How and when tariff moneys should be collected and distributed;
- What size of renewable energy generator should be eligible under the scheme, and whether the tariff should vary according to generating capacity;

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2 See, eg, Professor Andrew Blakers, *Submission* 1.

3 Renewable Energy (Electricity) Amendment (Feed-in-Tariff) Bill 2008, p. 2.

4 Mr Hans-Josef Fell, Member of the German Bundestag, *Proof Committee Hansard*, 16 October 2008.

- Who or what pays any costs associated with grid connection or grid upgrading if it is required;
- How, and by how much, any premium tariff should decrease over time; and
- For how long a scheme should operate.

1.9 In addition, any national approach to FITs must address the range of existing state and territory FIT schemes. Any FIT scheme must also be tailored to interact effectively with other climate change and energy policy instruments, such as an emissions trading scheme and renewable energy targets.

Existing FITs

1.10 There are FIT schemes already operating in some Australian states and territories. The committee notes that FIT policies are under discussion by the Council of Australian Governments (COAG). At its meeting of March 2008, COAG agreed 'to consider options for a harmonised approach to renewable energy feed in tariffs in October 2008'.[5] The committee understands this consideration is ongoing.

1.11 Currently, there is some form of FIT in the Australian Capital Territory, Queensland, South Australia and Victoria. A FIT has also been piloted in the Alice Springs Solar Cities program. The schemes vary significantly in their design.[6] Some of these FIT schemes are restricted to new installations, others are not. Some offer a FIT for all electricity generated, others for only the electricity that is surplus to the users' needs. Some have set limits for the scheme (such as a target number of megawatts of electricity generation), others have not. These differences in FIT schemes mean there is no consistent national approach. All these design choices raise significant policy questions, discussed in the next two chapters.

1.12 In addition, the existing Australian state and territory schemes have various eligibility restrictions. In Victoria, the scheme is limited to installed units of up to two kilowatt hours (kWh) generating capacity, and the scheme as a whole is capped at 100 megawatts (MW) of generating capacity.[7]

1.13 South Australia also limits the size of customers and systems eligible to participate. Its eligibility criteria are that the system must:

- be operated by a small customer (ie a customer who fits in to the 'small customer' category, defined as consuming less than 160 mega watt-hours of electricity per annum)

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5 Council of Australian Governments, *Communique*, 26 March 2008, p. 6.

6 Department of Climate Change, *Submission* 124.

7 Minister for Energy and Resources, 'Premium rate to Victorian solar-powered households', Media Release, 7 May 2008, http://www.dpc.vic.gov.au/domino/Web_Notes/newmedia.nsf/8fc6e140ef55837cca256c8c00183cdc/43fb9ccd3361fe7cca2574440007d1ff!OpenDocument (accessed 18 August 2008).

- be grid-connected to a distribution network which supplies electricity to 10,000 or more domestic customers (eg ETSA Utilities)
- be connected to the grid via a 'bi-directional' or 'import/export' meter
- fit the definition of a small (PV generator meaning a PV system with capacity up to 10kVA [kilovolt amps] for a single phase connection and up to 30kVA for a three phase connection*
- comply with Australian Standard—AS 4777.[8]

1.14 Queensland has a scheme similar to that in South Australia. The conditions of eligibility in Queensland are that customers must:

- consume no more than 100 megawatt hours (MWh) of electricity a year (the average household uses 10 MWh a year)
- purchase and install a new solar power (photovoltaic) system (not solar hot water system) or operate an existing system that is connected to the Queensland electricity grid
- generate surplus electricity that is fed into the Queensland electricity grid
- have an agreement in place with their electricity distributor (Ergon Energy or Energex) and have appropriate metering installed
- have solar PV systems with a capacity of up to 10kVA for single phase power and 30kVA for three-phase power
- hold an electricity account with an electricity retailer.[9]

1.15 Customers must also meet the costs of installation of new electricity meters. The Queensland scheme is subject to review once a level of 8MW of capacity is installed state-wide.[10]

1.16 The Australian Capital Territory's scheme in contrast has very few eligibility limits. While large generators receive a less generous feed-in tariff than household-sized installations, there is no size limit on individual generators (unlike Queensland, Victoria and South Australia) and no upper limit on the number of participants or number of MW that can be eligible for the feed-in tariff (in contrast to limits or reviews in Victoria and Queensland).[11]

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8 South Australian Department of the Premier and Cabinet, Feed-in mechanism, Frequently Asked Questions, http://www.climatechange.sa.gov.au/news/news_5_2.htm#4 (accessed 18 August 2008).

9 Queensland Department of Mines and Energy, Solar Bonus Scheme, http://www.dme.qld.gov.au/Energy/solar_feed_in_tariff.cfm (accessed 18 August 2008).

10 Queensland Department of Mines and Energy, Solar Bonus Scheme, http://www.dme.qld.gov.au/Energy/solar_feed_in_tariff.cfm (accessed 18 August 2008).

11 Electricity Feed-in (Renewable Energy Premium) Act 2008 [Australian Capital Territory], http://www.legislation.act.gov.au/a/2008-21/current/pdf/2008-21.pdf (accessed 18 August 2008).

1.17 The table below summarises some key features of current Australian FIT schemes.

Location	Size limits to individual installations	Limits or caps to scheme	Net or gross	New or existing	Value of FIT	Eligible sources
South Australia[12]	<10kVA single phase / <30kVA three phase	Review at 2.5 years or when 10MW installed	Net	Both	44 c / kWh (minimum)	PV only
Victoria[13]	2kW	Limit of 100MW	Net	Both	60 c / kWh (approx 4 times retail)	PV only
Queensland[14]	<10kVA single phase / <30kVA three phase	Review at 8MW installed	Net	Both	44 c / kWh	PV only
ACT[15]	None, but tariff reduces for large installations	None	Gross	Both	3.88 * retail tariff	Solar and wind
Alice Springs Solar Cities[16]	Not known	Limit of 225 installations	Gross	New only	45 c / kWh	PV only

12 South Australian Department of the Premier and Cabinet, July 2008, *Fact Sheet: South Australia's Feed-In Scheme for Small-Scale Solar Photovoltaic (PV) Installations*, http://www.climatechange.sa.gov.au/uploads/pdf/feed-in_fact_sheet.pdf (accessed 14 October 2008).

13 Minister for Energy and Resources, 'Premium rate to Victorian solar-powered households', Media Release, 7 May 2008, http://www.dpc.vic.gov.au/domino/Web_Notes/newmedia.nsf/8fc6e140ef55837cca256c8c00183cdc/43fb9ccd3361fe7cca2574440007d1ff!OpenDocument (accessed 18 August 2008); Victorian Department of Primary Industries, 2008, *Victoria's Premium Rate for Solar Power Fact Sheet*, http://www.dpi.vic.gov.au/dpi/dpinenergy.nsf/LinkView/490170EA6AD2DBEACA257456000E547F4CAC723B1D538D66CA25740C000D2004/$file/FiT%20Fact%20Sheet-2jun08.pdf (accessed 14 October 2008).

14 Queensland Department of Mines and Energy, Solar Bonus Scheme, http://www.dme.qld.gov.au/Energy/solar_feed_in_tariff.cfm (accessed 18 August 2008).

15 Electricity Feed-in (Renewable Energy Premium) Act 2008 [Australian Capital Territory], http://www.legislation.act.gov.au/a/2008-21/current/pdf/2008-21.pdf (accessed 18 August 2008).

16 Alice Solar City, Fact Sheet – Photovoltaic Solar Power, http://www.alicesolarcity.com.au/sites/default/files/factsheet-pv.pdf (accessed 14 October 2008).

Policy issues that arise in the design of a FIT scheme are discussed in the following chapters.