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Overview of Feed in Tariffs: a quick guide

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What is a feed-in tariff?

A Feed-in Tariff (FiT) is a payment for electricity fed into the supply grid from a renewable energy source, such as wind or solar panels. FiTs can be mandated by the government or offered voluntarily by an electricity retailer.

What is the point of a FiT?

FiTs are designed to meet a number of goals, including economic, industrial and environmental objectives. There are 65 FiT schemes globally, many at the subnational level. A list of these countries can be found in Table 3 (pg 70-72) of the [Renewables 2012 Global Status Report](#).

The primary aim of FiTs is to encourage the adoption of renewable energy. FiTs make the installation of renewable electricity systems more affordable for the owner of the system. They do this by reducing the payback times (the length of time it takes to recover the cost of installation) through savings in electricity fees. 'Early adopters' of new technologies tend to pay [high prices](#) for systems which are often not as efficient as later designs. By using a FiT to stimulate demand, governments assist early adopters financially but also, through increased demand, drive the industry to develop new and more efficient systems.

FiTs also encourage electricity consumers to become more energy-efficient. Some users benefit directly by being credited for electricity they generate beyond their own requirements. Others become more aware of energy usage through the installation of their own electricity system, and thereby may change their behaviour to reduce their energy consumption. These two factors allow individual users to reduce their electricity bills. The use of electricity generated from renewable sources can help reduce greenhouse gas emissions, contributing to [national or international reduction targets](#).

Finally, FiTs promote the diversification and decentralisation of electricity production. By decentralising electricity production it becomes less susceptible to problems such as natural hazards or maintenance issues affecting the operation of a centralised power supplier. Diversification also buffers the electricity market against supply issues that may arise in relation to a particular fuel source.

How do feed-in tariffs work?

A homeowner, small business or community group can pay to install a renewable energy system. Systems can include PV (photovoltaic) solar panels, solar thermal, wind turbines, biomass (using methane generated during decomposition of organic matter) or hydroelectricity (generated using flowing water), but eligibility for a FiT depends on the requirements of the scheme in that state.

After installation the user can submit an application to the relevant state authority and/or electricity distributor to apply for a FiT. If their system meets certain conditions (such as energy source, size, location, etc.) they can enter into a contract to receive the FiT for the electricity they export to the grid. The majority of contracts in Australia are for a fixed term, up to twenty years in some cases, and for either gross or net metering. Contracts

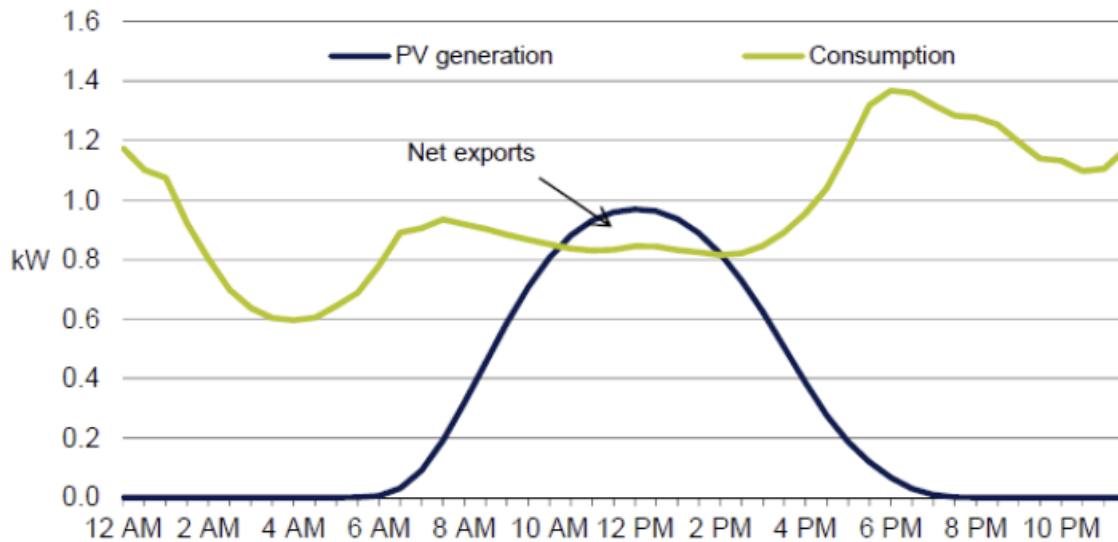
Definition of Gross and Net Metering

Gross metering: All electricity produced by the user is exported to the grid. The customer earns the FiT rate for every kilowatt hour (kWh) of electricity exported and pays the normal fee for every kWh they draw from the grid.

Net metering: The customer consumes the electricity that is generated on the premises. If the customer needs more electricity, it is drawn from the grid, incurring normal electricity fees. If the customer is consuming less electricity than their system is generating, then the surplus is exported to the grid and earns the FiT rate for each exported kWh.

are valid only as long as the customer stays at the one property and remains with the same electricity supplier. The contract also only covers the renewable energy system that is installed when the contract is made; modifications or additions are not valid for a Feed in Tariff.

Customers with solar panels will typically draw electricity from the grid during the night or on early mornings and evenings when the sun is low; however they are likely to be exporting electricity during the middle of a sunny day, as seen in the figure below. This exported electricity is generally credited against the customer's electricity account, reducing their bills or supplying a credit.



NSW average electricity consumption and PV generation over 24 hour period. Source: [Estimating a fair and reasonable solar feed-in tariff for Queensland](#). The green line shows the average consumption for a household, the blue line the average electricity generated by PV panels. When the blue line exceeds the green the household will be using self-generated electricity instead of drawing from the grid, if on a net metering system.

Feed in tariffs in Australia

In 2008 the Council of Australian Governments (COAG) issued [National Principles for Feed-in Tariff Schemes](#). The report notes all Australian governments agree that small-scale solar generators have the right to export electricity to the grid in return for payment; the Principles were updated in 2013 to [include all renewable energy generators](#). Since 2008 all Australian states and territories, with the exception of Tasmania, have operated some form of mandatory FiT. With no national scheme in place, FiT programs vary by state, each paying different tariffs and covering generators of different types and capacities. A breakdown of each state's FiT scheme will be provided in following Quick Guides.



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