



Feed-In Tariff Discussion Paper — Comments

February 2008

The Chief Minister's Department has issued a Discussion Paper on the possible model and operation of a feed-in tariff (FiT) arrangement to apply in the ACT. Comments from interested parties have been sought on this paper, and in particular on the most appropriate form of FiT that could be applied for the purposes of encouraging the purchase of energy produced from renewable sources.

The following comments are intended to address:

- the principles of a renewable energy support program;
- the use of household based energy production from renewable sources as a means of meeting renewable energy targets; and
- the practical aspects of the model that has been proposed in the Discussion Paper.

These views and comments are offered as a contribution to the debate on the use of a household based renewable energy generation program requiring the establishment and operation of some form of a FiT. The comments should not be interpreted as being an argument against the establishment of renewable energy targets, or the implementation of appropriate policies and administrative mechanisms designed to encourage greater use of energy derived from renewable sources.

Principles Embodied in a Renewable Energy Support Program

The Discussion Paper seeks to establish the policy framework and basis for the use of some form of FiT for purposes of promoting greater use of renewable energy. The focus in the paper is upon:

- *'reducing greenhouse gas emissions by lessening reliance on non-renewable energy sources;*
- *accelerating the uptake of renewable energy technologies;*
- *stimulating greater innovation in renewable energy technologies;*
- *reducing distribution loss factors associated with the flow of electricity through the distribution network; and*
- *reducing the amount of energy required to be purchased from the wholesale electricity market by reducing reliance on network delivered energy.'*¹

While these policy outcomes are commendable, the Paper fails to address the central issue of the *efficiency and effectiveness of the options* discussed in terms of promoting these desirable outcomes. With the exception of a comment in the paper

¹ Discussion Paper, p3

as to the overall volume and cost of the carbon savings that are possible from the use of PV technology in the ACT supported by a FiT arrangement, there is no real consideration or discussion of whether the outcomes that are being proposed are efficient and effective in terms of the overall objectives of encouraging greater use of renewable energy sources. There is a danger, therefore, that the reader could be lead to believe that the proposal being offered (which is effectively a discussion around the model for a FiT arrangement that is to be introduced into the ACT), is an efficient and effective way of achieving the overall policy objectives. This in turn can result in significant misallocation of resources, with consequential effects not only in terms of the use of resources within the ACT, but in terms of the pricing signals that are sent to larger consumers of energy who may consider locating their activities in the ACT.

Thus, for example, the suggestion that the FiT will contribute to greater innovation in renewable energy resources will only be of benefit to the nation and to the ACT if the technologies that are developed are likely to provide products that can be cost effective in their application and are likely to be adopted by the market without some form of continuing government or consumer subsidy. Small-scale PV-based energy production arguably does not represent the most effective and efficient way to deliver energy savings. This does not deny the ability of this technology to be a source of energy from a renewable source. However, it does question the usefulness of this form of technology to meet the overall policy objectives enunciated in the Paper.

In outlining the type of model that the Government is seeking to develop, the Paper notes that the model *inter alia* will '*be simple, effective and efficient*². It is just this requirement, however, that the Paper, and indeed the model that is outlined for discussion, fails to address. To make a useful contribution to the debate on the question of the form of support that may be required to encourage greater use of energy from renewable sources, the Paper needs to address directly the issues of effectiveness and efficiency and highlight how the proposal for a FiT supporting household-based PV generation of electricity will meet this criteria.

Failure to address this issue will result in a scheme that will encourage inefficient investment in systems and technologies that will be unsustainable in the future. Unfortunately, should the Government proceed with the model discussed in the Paper, there will also be an implied commitment to this technology and funding arrangement into the future. Attempts in South Australia to limit the life of the type of funding arrangement that is being contemplated in the ACT have been overturned by a decision of the South Australian Parliament to mandate the FiT funding arrangement for 20 years, not the 5 years originally proposed by the government in that State.

There is a real danger that a requirement for this type of FiT arrangement will continue notwithstanding the very real likelihood that the national rules relating to the use of non-renewable energy sources are about to change with the introduction of carbon taxes and associated pricing arrangements, which in turn will result in a significant paradigm shift in the pricing of energy to all sectors of the economy. This development is far more likely to promote the desired shift in energy use and the

² Ibid p4

development of alternative renewable sourced energy than a FiT program focussing upon small scale self generation models.

Should the ACT Government believe that it is necessary, possibly for purposes other than simply economic efficiency, to proceed with a FiT arrangement, then the correct policy approach should be to limit the operation of the scheme such that there is no implied continuation of the subsidy arrangement beyond the period in which the carbon tax arrangements are being finalised and introduced across Australia. A policy program that has a finite life with a clear sunset clause would possibly meet the need to present a program that demonstrates a desire to support renewable energy investment, but does not commit the government or the community to fund these investments in the longer term when the likely efficiency and effectiveness of such programs are less likely as national carbon taxing policies evolve.

To assist in the government's and community's consideration of the FiT program, it would be desirable for the Paper to be redrafted in a way in which it addresses more directly the issues of effectiveness and efficiency as fundamental principles that need to be considered in the design of any subsidy based policy program. In so doing, the Paper would then need to make clear the relative merits and shortcomings of the FiT proposal in meeting these principles of public policy formulation. This will better guide government in its decision on how the scheme should be designed and implemented such that the overall benefits to the ACT and the nation are maximised and the costs, particularly over time, are minimised. Failure to address these principles will only serve to weaken the arguments for a FiT and potentially burden the ACT economy with a program that will need continued funding in some form or other way beyond any period within which it can possibly be considered as making a net contribution to the efficient and effective use of renewable sources energy in the ACT.

It is noted that while Victoria and South Australia have adopted a program for encouraging household-based electricity generation using a FiT arrangement, New South Wales and Queensland have decided against such a program. Thus, it is not clear why from an efficiency and effectiveness perspective such a program should be seen as being appropriate in one part of Australia and not another. This further serves to highlight the need for the ACT to consider carefully any decision to proceed with such a program, particularly when the ACT already has in place other programs designed to encourage greater use of renewable energy (for example, the 'Green First' program for retailers of electricity).

The Use of Household-Based Energy Production to Meet Renewable Energy Targets

The central premise of the Paper is that the FiT will be provided to support the delivery of renewable energy from production using PV technology installed by households across the ACT. The Paper acknowledges that not all households will wish to invest in this technology. Furthermore, to make a possible contribution to the energy supply in the ACT, the Paper notes that households would have to install equipment which would potentially cost at least \$41,000 after the Commonwealth \$8,000 rebate.³ Even where a household is willing to make this level of investment,

³ In a practical sense, the household would need to invest \$50,000 before being in a position to make a net contribution to the supply of electricity

there is no guarantee that the conditions will be right to achieve the maximum supply of electricity from the PV equipment itself and its placement on the residence in question.

The more realistic benefit from the use of household based PV generation technology is that households may potential be able to reduce their own consumption of non-renewable based electricity supplied though the existing electricity network. On this basis, the implied investment by the household could be as low as \$5220 (after the Commonwealth rebate), although to power an average house fully an investment of \$17,690 (net of rebate) is indicated. Notwithstanding these levels of investment, however, the model being proposed does not guarantee that a saving on existing levels of consumption of externally generated electricity will indeed be the outcome as consumers may simply increase their consumption based on the view that whatever is provided from the PV system is effectively 'free'. Having incurred the cost of installing the PV based system, the cost incurred in making this investment is effectively 'sunk', and the incentive to reduce consumption is likely to lessen over time particularly as houses are sold and new owners have less of a sense of ownership of (and commitment to) the initial decision that was made to install the PV system.

The actual take-up of the PV equipment is difficult to anticipate, and the Paper acknowledges that currently there is only one household in the ACT that is feeding energy back into the network. The Paper does try to present some possible scenarios, although these are purely for illustrative purposes. However, they do highlight the fact that even should the take-up of these technologies be as high as 10% of all households, the total costs are not insignificant and the cost per tonne of carbon saved are significantly greater than the cost of other carbon saving technologies that could be used to meet the targets set by the Government.

Thus, the Paper effectively acknowledges that the choice of a program built around a FiT arrangement would not be the most effective and efficient way to achieve the non-renewable energy saving objectives of the ACT Government. Furthermore, if households that currently use 'Green Power' are attracted to this type of technology (and it is possible, given the additional costs involved, that it will be just this type of household that will respond to the FiT payment), then effectively the scheme will have encouraged households to move from a more efficient form of renewable energy generation to a less efficient form.

The Paper rightly addresses the issue of *equity* in the use of some form of FiT to encourage the adoption and use of household based renewable energy generation. This is a fundamental weakness of programs that are designed to encourage an individual household response — because of the 'entry' costs involved, they effectively penalise one section of the community while benefiting another. While a penalty-based program can have its place when it encourages improved consumer behaviour and is equally applied to all, a system which effectively only allows the more well-off to benefit while penalising those who may be less financially able to respond and thereby are effectively funding the energy saving activities of those who are more capable of making the financial investment required, is counter to the generally accepted principles of welfare economics.

The possible solutions suggested by the Paper deserve a brief comment as they serve to highlight the limitations of a FiT type program when combined with other characteristics of the energy market.

The suggestion is that possibly the pricing mechanism can be used in some way to address the equity issue. However, this would seem to be contrary to the overall objective of encouraging households to switch to more renewable sourced energy supplies. To offer households a discount on their energy prices based on some indicator of welfare need (for example, a pensioner card or some similar welfare payment entitlement) would only be workable where there remained a regulated retail price for electricity — the Temporary Franchise Tariff (TFT) in the ACT, and there was a requirement on the incumbent retailer to make this price adjustment. However, in the current contestable market for electricity, the ability of the incumbent retailer to fund such a discount in the face of competition from other retailers would not be sustainable. Furthermore, as the inevitable move to a market without the retention of a TFT arrangement occurs, there will be even less likelihood of a retailer being willingly to give a discount to a particular group of households for purposes of compensating them for the additional cost implied by the operation of the FiT. Thus, this approach appears to be highly unlikely to be a long-term solution, or even an effective solution in the short term.

Support for demand reductions to reduce expenditure on basic needs such as energy supply is suggested as another approach to address the equity issue. This suggestion is interpreted to mean that certain households would in some way be encouraged to reduce their electricity consumption below their current demand as a means of reducing the effect of the price increases required to fund the FiT. However, this approach fails on at least two fundamental points.

Firstly, if it is possible to have this group of households reduce their electricity consumption below presumably a level which is the minimum they require to survive (as that is why they are in this particular disadvantaged group), then why not apply similar programs to the rest of the community and in so doing reduce the demand for energy supply across the Territory rather than encourage some households potentially to continue to consume the same level of electricity notwithstanding that it comes from a renewable source.

Secondly, if these target households are already at the minimum level of electricity consumption that they require to survive, how costly would the programs be to help them meet their basic energy needs (presumably for heating, cooking and washing), and how do these costs compare with the overall benefits that are expected from the FiT program itself. Included in these costs would need to be the administration costs of managing the scheme which of themselves would be significant.

'Financial compensation' is suggested as the third alternative to address the equity issue. It is understood that this approach envisages direct financial compensation from the government (a form of direct CSO payment). To some extent this represents the most practical and viable of the three options proposed. However, it is not without its limitations and difficulties. Administration of financial compensation arrangements in the ACT have not proven to be particularly successful in recent years, and there is already concern within the community regarding the delays in

making payments of financial compensation to relevant households following the introduction of the Network Facilities Tax.

A general exemption arrangement for lower-income households is also mentioned as an option in the Paper, but quite rightly dismissed as unworkable.

Perhaps the only saving factor in this discussion of the need to address the equity issue is that there may be a very small take-up of the FiT arrangements and thus a very small impact on the prices that consumers will pay for electricity. However, there is no guarantee that the impact will be small, and from a general policy development perspective, the relative impact of a decision that has obvious equity issues should not be used as justification for failing to address the issue. Certainly, the likely impact and the relative practical importance of this issue will be influenced by the magnitude of the FiT offered, and thus the calculation of the quantum of the FiT should not be undertaken in isolation of the impact on other sectors of the economy including other household groups.

Furthermore, if the likely take-up of the FiT option is relatively small, the use of household based renewable energy production as a means of meeting the Government's renewable energy targets must be questioned. Again, there is the need for the Paper to consider in more detail and in a more structured and informed manner the effectiveness and efficiency of this proposal rather than simply adopt the proposal on the basis of practices adopted in other countries or in other parts of Australia. The recent decision by the ACT Government to require 'green energy' to be the first offer to be made to households that are connecting or reconnecting electricity to their houses represents a policy response that has no wider equity and social welfare consequences but does provide the opportunity for a greater take up of renewable energy within the ACT. It is 'equity neutral' programs such as this that offer greater potential in a small economy such as the ACT.

Determination of the FiT

The Paper provides some discussion on the *possible quantum of the FiT* based upon certain assumptions. The following comments seek to address some of the fundamentals as to what is an appropriate FiT rate without falling into the trap of assuming that the FiT that is applied in other places or under other market and regulatory conditions is the correct value to use in the ACT. Of concern to policy makers must be the potential for setting the FiT at a level that is either too high or too low and thereby encouraging inefficient investment in renewable technologies or insufficient uptake of the scheme to meet the stated objectives. Arriving at the correct value of FiT therefore becomes a fundamental practical issue that if not addressed correctly can result in unintended outcomes that may negate the intended deliverables from the program.

The points to be covered are:

- Should a 'gross' or 'net' approach be used in setting the FiT?
- Should the FiT be determined 'independently' by the government or should the market set the FiT?

- What is the economic life of the PV technology over which the investment should be recovered?
- What rate of return should be used in the calculation of the FiT?
- Should the FiT continue to be applied beyond a defined period?

Gross or Net

The paper has argued for a 'gross' approach to the setting of the FiT. In effect, that means that all electricity generated by the PV equipment will be 'sold' to the DNSP at the FiT rate, and the household will effectively repurchase some (or all) of that electricity at the standard rate applying to the amount of electricity being consumed.⁴ The argument in favour of this approach is that it rewards (financially) the household for all electricity that is produced using renewable sources, not just the net amount that is added back into the grid. The justification is that this approach provides an incentive to reduce energy demanded through the grid and thereby contributes to a lowering of demand on the existing generating capacity and reduces the loss of electricity carried through the transmission and distribution networks.

The 'net' approach would only involve payment of the FiT on the excess electricity that is produced and supplied into the network. The household in this instance would not need to make any payment to the retailer (beyond presumably a fixed connection charge) if the household was producing sufficient to meet all its energy needs. Should the intention be that the household fully recovers its capital costs from the investment in PV technology, the rate of the FiT would be higher under a net approach as not all of its output is being used as the basis for determining the amount of 'income' that it earns on its PV production.

The approach adopted for feed-in tariffs in Victoria and South Australia is the 'net' basis whereas the approach adopted in the European examples given in the Paper is the 'gross' approach. The Victorian and South Australian examples are more directed towards household generation of renewable energy (small volumes and dispersed across the network) whereas the European examples are more directed towards large renewable energy generation (for example, via wind farms and large industrial producers who are able to feed excess capacity back into the network).

The question of whether to use a gross or net approach goes to the issue of the intention of the FiT. That is, is it intended that the FiT fully recover the costs of investing in and operating the PV equipment, or is it intended to be a supplementary subsidy to the Federal Government's cash rebate of \$8000 which in turn encourages those households who wish to become more self sufficient in their energy production to consider adopting PV technology and equipment. The use of the gross approach in the European situation which is more directed towards larger renewable energy suppliers, is intended to drive commercial investment decisions and to address (particularly in eastern Germany) the poor state of electricity generation infrastructure that was inherited from the pre-Berlin Wall collapse days. However, the European system also applies to households who are also paid on the basis of gross production.

⁴ The rate paid by the household will depend the type of contract that they have with their retailer, and may be the Temporary Franchise Tariff or a tariff negotiated in the competitive retail market.

If the program is designed purely for small-scale household level generation, is it intended that the FiT should allow the household to achieve a full recovery on its investment in the equipment, or should the FiT simply give a further level of encouragement to 'self sufficiency' to those who wish to adopt this route? If it is intended to recover fully the cost of the PV equipment, then this raises three fundamental problems:

1. Given the range of costs for different generation capacity PV systems (with higher efficiency per dollar invested being evident for larger household-based systems based on prices currently quoted in the market), should the FiT be set to recover the cost for the most cost efficient and effective form of generation using PV equipment?
2. Should the FiT rate be adjusted over time to allow for anticipated cost reductions for PV equipment as the scale of production increases in response to higher demand?
3. Has the full cost effectiveness of this form of renewable energy generation been tested against other larger-scale renewable energy generation options as part of the underlying efficiency and effectiveness examination that, as discussed above, should be undertaken before any commitment is made to this FiT program?

While these issues apply whether a gross or net approach is used, they become less critical in terms of the overall efficiency of the renewable energy generation program should a net approach with a finite life be adopted, and it is clearly understood that the FiT is not intending to ensure full recovery of the investment made by the household. There is a fundamental equity issue here that must be addressed. In the same way that consumers do not receive any incremental financial benefit (other than their own cost saving) from action taken to reduce electricity consumption at the individual household level (there being no payment being made to these households on the basis that they have effectively saved the creation of additional carbon waste or reduced line loss costs), a net approach would only make a payment to a household when the action taken by that household actually contributes to the supply of renewal based electricity to the grid. Under a gross approach to setting the FiT, an inequity is created by the cross-subsidised funding of one form of energy saving over another form.

The FiT program needs to be carefully structured such that it does not send the wrong signal in terms of the amount of electricity that a household uses. Simply stated, a gross payments system (which is really designed for large-scale, purpose-built renewable energy production) does not necessarily encourage households to reduce their energy demand. Indeed, it can and potentially will, effectively cross-subsidise households who have installed this equipment to the point where they are more than happy to be net importers of electricity because they are being paid a premium on the gross energy that they produce. Thus, the use of a gross payment arrangement can work against the objectives of the Government's renewable energy program.

Setting the FiT by Decree or by the Market

With the exception of the arrangements that have now been agreed in Victoria, the practice for the setting of the FiT has been for the rate to be set by the relevant authorities (the 'decree' approach). This may include the independent pricing regulator, or the relevant government department. This approach has the advantage that it allows the setting of a rate against some agreed principles and objectives (such as whether or not the FiT is intended to fully reimburse the household for the capital cost of the equipment and the economic life of the equipment). In Victoria, the government has adopted the approach of allowing the market to determine the FiT that will be paid. However, the government has put into place an arrangement whereby if the relevant Minister does not believe that the rate is fair and reasonable, the FiT can be referred to the independent pricing regulator, the Essential Services Commission, who can then provide advice on an appropriate rate based on a series of principles set by the Minister.⁵

The advantage of the Victorian approach is that it allows the market to set the rate taking into account all commercial issues that the market will face in the take-up of the additional energy that is produced. At the same time, the Victorian approach specifies a series of principles and assessment criteria that the ESC must apply if it is requested to review the prices or conditions for any FiT offered. Thus the market is informed as to the policy requirements that are expected in terms of the composition and nature of the FiT and associated conditions of operation, and the government through the ESC or the department are able to avoid the task of making an initial determination. Included in the government criteria could be requirements for the recovery of all or part of the cost over a specified period of time, consideration of possible adjustments to the FiT taking into account changes in the cost of purchasing the PV equipment over time, and the arrangements for the recovery of connection and metering costs. Thus, the government's objectives can be met while having the advantage of the industry making commercial judgements based on the market with the added incentive of the price regulator monitoring the prices and conditions and possibly being asked to step in and set these prices and conditions.

Whether the approach adopted in the ACT is the 'decree' approach to the setting of the FiT or the 'market approach, it is fundamental that the FiT rate be set in the context of the circumstances in the ACT. This includes consideration of the overall aims and objectives of the ACT Government, the direct (and indirect) costs associated with setting up and operating a PV system (which includes the cost to the DNSP or retailer including arrangements for the recovery of costs for the necessary adjustments to metering systems), the variation in the purchase and installation costs of this type of equipment, and the likely economic life of the equipment. The application of a FiT rate applied in another country is inappropriate and would in all likelihood result in inefficient and wasteful investment.

An approach that allows the market to assess the various options and then offer a price would appear to have economic efficiency benefits in that it allows the market to consider all the costs and also to respond to the requirements that the government might set for the scheme. The electricity market in Australia is moving further

⁵ ESC 'Methodology for Assessment of Fair and Reasonable Feed-In Tariffs and Terms and Conditions', January 2008

towards a free market operation, a position endorsed by the ACT Government in its role as a member of the Ministerial Council on Energy. To retain a non-market price determination process for renewable energy generation while at the same time opening the market to free competition in all other respects would be an inconsistent approach to policy setting for this industry. Having the pricing regulator act as the watchdog over the price the market sets provides added assurance for government that the rate determined is fair and reasonable.

The alternative would be for the independent prices regulator to set the FiT. This will allow a public and transparent process that will allow for all the relevant factors and issues to be considered and for a rate to be set that meets the government's objectives and the market circumstances in the ACT.

Setting the Economic Life

Fundamental to any consideration of the appropriate FiT to apply is the question of the economic life. The Paper has prepared estimates based on a life of 10 years (referred to as the 'pay back period'). It is noted that Germany, for example, uses a period of 20 years and that South Australia has recently mandated that the buy-back arrangement should apply for 20 years—which seems to imply that this should be the payback period.

In one sense, once the life extends beyond 10 years, the impact of the discount rate on the extended life makes little difference to the quantum of the FiT calculated. However, it does highlight the issues of the intended length of operation of this scheme in a market where there is continuing change, both from a technology perspective and from a policy perspective (for example, the impending introduction of carbon taxes will result in consumers who do not generate their own renewable based electricity paying twice for the environmental impact of the electricity they consume, once through the carbon tax and once through the FiT if it is determined as being a multiple of the standard electricity rate, a further equity issue). There needs to be a balance between the way in which the FiT is determined and operates, and the rapidly changing circumstances affecting the operation of the energy market.

Consideration needs to be given to possible 'off ramps' to the operation of the FiT arrangement which would avoid the possibility of consumers paying twice for environmentally friendly energy supplies. This would suggest that the 'economic life' of the PV technology could be much shorter than the 10 years allowed in the Paper (and possibly much shorter than the technical life of the equipment). Unless consumers and the market in general are fully informed of just how these off ramps might work, the ability for households to make sensible investment decisions to install PV equipment is significantly lessened.

However, a shorter economic life would imply that the FiT rate itself needs to be much higher if it is assumed that it is intended that the FiT fully compensate the household for the installation of the equipment. This approach assumes that all forms of the PV equipment are equally efficient in terms of kWh output per dollar invested (which they clearly are not), and that all households install the equipment at the same time (which clearly they will not).

Notwithstanding that the South Australian Parliament adopted a 20-year life for the FiT program in that state (largely as a result of a last minute amendments introduced by a minor party in the Parliament itself) and the use of longer time periods in Europe (where the program is designed to encourage and fund large-scale renewable energy generating facilities), an approach in the ACT which sets a finite life (or say 5 years, but with some form of off ramp should carbon taxing be introduced and operational within the 5 years) and which is designed to provide a partial subsidy of the net cost of purchasing the PV equipment would be a more realistic option. This would allow the issue of 'economic life' to be disregarded and the FiT clearly identified as a limited financial incentive and an interim step towards encouraging more environmentally friendly generation of electricity in advance of a national approach to carbon taxing. This would also avoid the difficulty of the Government possibly maintaining a cross arrangement well beyond the period that it makes economic sense to continue such a scheme. It would not prevent households from making a decision to adopt PV technology, and with the advent of carbon taxes would still provide an environment where it would be financially attractive and rewarding for households to produce their own electricity from renewable sources and thereby avoid the taxes that will apply to coal fired generation.

Rate of Return on Investment

The determination of the rate of return becomes less of an issue if the subsidy period is kept relatively short and the purpose of the FiT is defined as not being to compensate fully households for the purchase of the PV equipment. The ICRC sets rates of return for regulated entities using generally recognised Capital Asset Pricing Models. However, the rate of return that might apply to a household could be expected to be different to that applying to a commercial business. This again highlights the need for careful consideration of the purpose of the FiT program in the ACT (that is, is it intended to encourage commercial generation of renewable energy or just small scale household generation). Also, given the possibility that the scheme to be devised will effectively be a limited subsidy with a finite life, the calculation of the rate of return becomes less of an issue.

An independent process to determine these matters would allow households to contribute to the debate on the rate to be applied. It would also allow the relevant regulator to make a determination regarding how (or if) the FiT rate should be adjusted with movements in the risk free market rate (and with changes in the capital cost of buying and installing PV equipment).

Thus, for purposes of further debate on this matter, it would be convenient to consider a rate of return that is in line with the rate that the ICRC currently uses for regulated entities. Currently this rate is around 7% pre tax real. However, should the Government proceed with a program built around a FiT, the independent setting of the FiT as proposed above should incorporate the independent determination of the rate of return or discount rate.

Continuation of the FiT Beyond a Defined Period

As outlined above, there are dangers in extending the FiT program beyond a well pre defined period. It has been suggested that a 5 year period would be the maximum that should be adopted, subject to further consideration of the likely timing of the introduction and national operation of a carbon tax program.

The dangers in an extended program are that:

- The FiT program could work in competition with the emerging national policies and taxes designed to achieve greater use of more environmentally sensitive energy generation.
- The FiT may create a situation where consumers in the ACT are required to pay twice to meet environmental standards, thereby placing the ACT at some disadvantage to other locations in terms of 'cost of living' comparisons and new business location decisions.
- The longer the period of the operation of the FiT arrangement in a dynamic energy market with rapidly evolving technologies, the more likelihood that it will encourage less efficient technologies and responses to energy requirements in the ACT.
- Once the period of the scheme is announced, any attempt to shorten that period is likely to attract claims for compensation from those households that have invested on the basis of the terms of the program.

The life of a FiT program needs to be clearly stated at the commencement of the scheme so that all parties understand what are to be the rules and requirements that are to apply to this scheme. Again, there is a need to differentiate between the buy-back programs that are used in other countries where they are intended to support the development of larger, commercial generation operations and the situation in the ACT where the stated aim is to restrict the scheme to small scale generation confined primarily to households. The ACT Government's renewable energy generation objectives can be met in an efficient and effective manner by carefully targeting this scheme and linking it with the emerging national programs. In this way the ACT will not be put at a disadvantage in terms of its overall energy efficient use while at the same time contributing to the environmental objectives of the Government. It would be a mistake to assume that the failure to set a realistic sunset clause on the operation of the FiT program as currently envisaged in some way lessens the Government's resolve to encourage greater environmentally sensitive energy production.

The discussion above has assumed that the FiT in question will be one that is mandated by government and in some way set by decree or at least set under guidance by the government (along the lines of the Victorian approach). However, it should not be assumed that by placing a cap on the length of the mandated program it is implied that some form of ongoing energy buy-back arrangement should not be available to households into the future. Rather, it is envisaged that the Government would allow the market to determine the terms and conditions for the buy-back arrangements beyond the initial period (suggested as 5 years).

Anticipating the existence of carbon taxes and the need for the market to source energy from the most environmentally friendly source, it is envisaged that the industry of its own accord will be looking for opportunities to purchase energy from renewable sources, and that this will provide the framework within which households can make decisions as to whether or not to install and supply from their own PV equipment. Thus, in placing a finite period on the Government's mandating of a FiT arrangement, it is not intended to imply that a buy-back arrangement would not

continue in some form beyond this point. Rather, it is intended to highlight the dangers of continuing with a buy-back arrangement that is mandated in a way that potentially will not reflect the realities of the market in 5 years time. This is the fundamental point that the Government must consider in the design of a buy-back arrangement.

The Paper has endeavoured to set out a number of possible features of a buy-back program incorporating the setting of a FiT and requiring the FiT to be paid to households who wish to use PV equipment to generate electricity which could be available to be returned to the grid. This submission has sought to highlight a number of issues relating to the concept of the buy-back arrangements themselves, and to the determination of the FiT.

In summary, the conclusions that can be drawn from this submission are:

- There needs to be more careful consideration of the *overall effectiveness and efficiency* of the buy-back program particularly in the context of the objections that have been enunciated by the Government and in the Paper itself.
- The design of support mechanisms to *address the cross-subsidy* elements of the buy-back scheme and the *equity issues* particularly for households suffering financial hardship need to be further explored in the context of the possible take-up of the buy-back program.
- *Further equity issues* are raised by the proposed scheme in terms of whether
 - a gross or net approach is used to set the FiT and require payments to be made to participating households; and
 - the length of time that the scheme is to operate in a dynamic market when the introduction of carbon taxing arrangements could result in some households being asked to pay twice for the benefit of encouraging and funding renewable energy production.
- The determination of the FiT itself and the conditions to apply to the FiT should be based on a scheme that has:
 - a *clearly predefined finite life* (no more than 5 years);
 - a ‘partial subsidy support’ rather than ‘full recovery of investment cost’ objective;
 - a *market approach to the determination of the FiT* (with appropriate monitoring) or at least a transparent and independent determination of the rate; and
 - provisions for ‘*off ramps*’ to allow for the introduction of national policies (such as carbon taxes) that will effectively replace the need for a mandated buy-back arrangement.