

# **The ACT Renewable Energy Target of 90%: Investigating its Delivery and Interactions with the Federal Renewable Energy Target**

This report was prepared by a student research group as part of coursework for the ANU Fenner School of Environment and Society, ENVS3030 Solving Complex Environmental Problems Stakeholder Group Research Project in September 2014 for the Conservation Council ACT Region.

The purpose of the report was to investigate the delivery of ACT Renewable Energy Target (RET) of 90% by 2020 and its interactions with the Federal Renewable Energy Target. It recommends the Conservation Council should:

1. continue to support the ACT RET and the Federal RET, although the Federal RET is not critically linked to the ACT RET.
2. seek to improve community understanding and knowledge regarding the ACT RET for two reasons. First and foremost, to strengthen progress of the policy by negating the potential of community opposition. Secondly, to support the positive effects from the promotion of renewable energy as felt in the small scale industry.
3. continue to monitor the progress and potential of the ACT RET in terms of future composition (i.e. Canberra as a hub for the industry and Next Generation Renewables). Dependent on changes and developing interactions the Conservation Council may adjust their standpoint accordingly.
4. explore the potential for a mandatory RET for electricity providers in order to negate the risks regarding dependence on third parties as identified by large scale developments.
5. consider supporting the use of collaborative linkages such as those offered through South East Region of Renewable Energy Excellence (SERREE).

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*Disclaimer: This report was not prepared by the Conservation Council ACT Region although it is in our template/house style*

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## Introduction

The rise of renewable energy production, from sources such as solar and wind, is very much a global trend. Similarly there have been a number of policy initiatives that set targets, usually as a percentage of energy production, for the amount of renewable energy that should make-up the electricity market. Needless to say, the force of renewable energy is changing the energy market and the success of these policy initiatives is underpinned by a number of components.

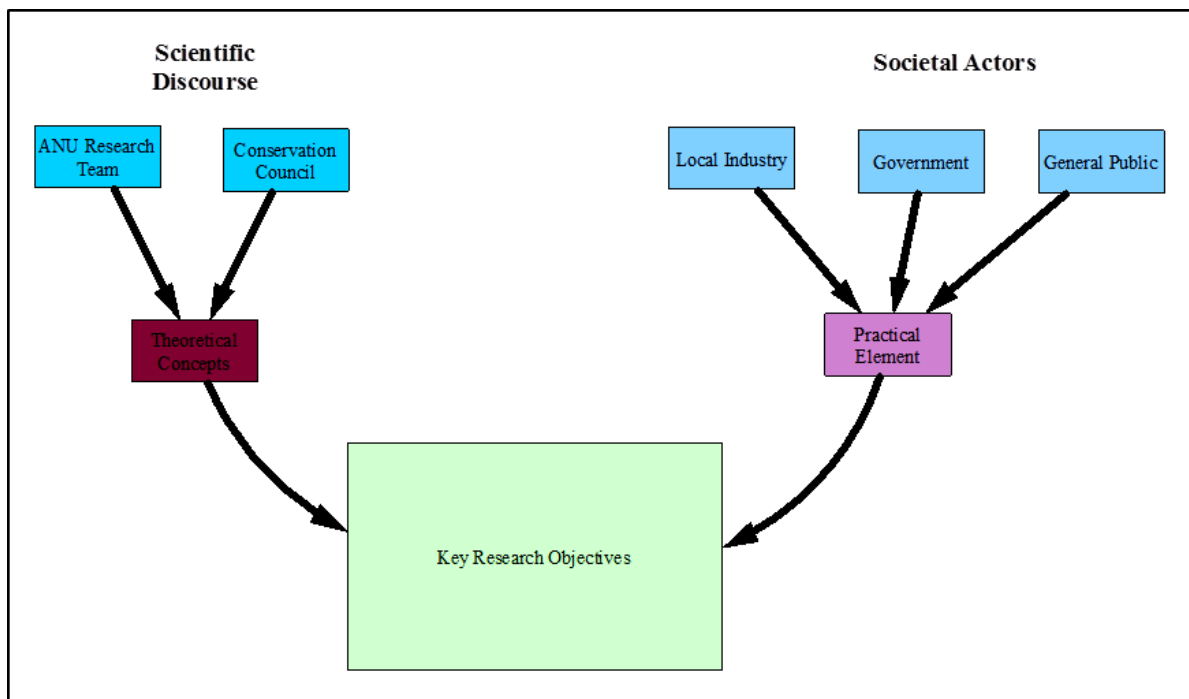
In an attempt to better understand the factors that enable and/or inhibit the delivery of the ACT's Renewable Energy Target of 90% (henceforth ACT RET) this research paper explores the following key topics:

- 1) the role of the Federal RET in the ACT,
- 2) the strategy adopted by ACT Government to reach the target,
- 3) the industry perspective, and
- 4) ACT public awareness of the ACT and Federal RET.

By exploring these four topics we will be able to provide a comprehensive analysis of the ACT RETs current context and its strengths and weaknesses. Based on the findings of the report, a set of key recommendations is put forward to help strategically guide the Conservation Council in supporting the ACT RET.

## Framework

The framework developed for this research aims to combine multiple stakeholder perspectives in a transdisciplinary manner to create a practical overview of the policy itself, its implementation and the voices of societal actors such as local industry representatives and the general public. This fits well with the scientific background of the research team to espouse the theoretical with the practical components of the research project. A conceptual framework model of this can be seen below (Figure 1).



**Figure 1 Conceptual Framework**

## **Methodology**

This research utilizes qualitative and quantitative data from both primary and secondary data sources. Data was collected through mixed methods from semi-structured interviews, polling, literature reviews and content analysis of government documents. While a transdisciplinary approach was adopted it must be noted that stakeholder engagement was limited due to time constraints and societal actors played a more participatory and informative role in the research.

## **Methods**

The first two sections of this report (the role of the Federal RET in the ACT; and the strategy adopted by ACT Government to reach the target) were compiled through the use of a comprehensive literature review. The methods of the latter two sections (the industry perspective; and ACT public awareness of ACT and Federal RET) are detailed below.

## **Industry Perspective**

A number of ACT renewable energy providers and the Australian Solar Council were contacted initially via phone and then subsequently with our questions via email. Questions asked were in regards to their perspective and interaction with the ACT RET and Federal RET. Those contacted were made aware of the ethical consideration pertaining to our research. We received three responses from large-scale energy providers, four responses from small-scale energy providers and a response from the director of the Australian Solar Council. Information on the future of the industry was provided in a presentation by John Sibley, Climate Change, Energy and Sustainability Policy ACT Government. Once all the responses and information were received, we analysed the data in terms of these categories and reported our findings as such.

## **Public Awareness**

A poll of thirty-nine randomly selected individuals in the ACT community was conducted in Civic, Canberra. They were asked three closed questions regarding their awareness of the Federal and ACT RETs. Participants were made aware of the ethical considerations pertaining to our research.

# **The role of the Federal Renewable Energy Target in the ACT**

## **Overview of the Federal Renewable Energy Target**

The Federal RET is set at 20% renewable energy by 2020, and is supported by the Renewable Energy (Electricity) Act 2000, passed by the Commonwealth Parliament in 2009. It is also a key mechanism for achieving Australia's non-negotiable emissions reduction target under the Kyoto Protocol (DoE, 2012). The RET is broken into two main schemes, the Large-scale Renewable Energy Target (LRET) and the Small-scale Renewable Energy Scheme (SRES). Each scheme has its own separate certification system that allows for trading of certificates, providing an economic incentive to produce renewable energy. To date, the Federal RET has been the scene of much confusion and politicization.

The move by the Federal Government to select its own panel to conduct the statutory biennial review attracted much media attention, with some sceptics foreshadowing the

abolition of the target altogether (White, 2014). The findings of the Renewable Energy Target Scheme (2014) led by Dick Warburton take a decidedly economic and negative approach to the Federal RET. Perhaps the most worrying aspect of the review is that there is a distinct lack of vision for renewables into the future and little effort to reconcile or attempt to manage the integration of renewables into the energy market. The key recommendations of the review are to close the LRET to new investment and abolish the SRES, both due to their 'impact on energy markets' (RETS, 2014).

In a recent development, the Federal Government has indicated that they will continue to support the Federal RET, however there will be a review of the '20%' target. Changes in energy consumption have meant that early estimates of 41,000 gigawatt hours would constitute 20% of Australia's energy production in 2020 are incorrect. Rather than the supporting a target of 41,000 gigawatt hours by 2020, the Government is looking to reduce that to what they refer to as a 'real' 20% (Pedley, 2014). While this is by no means a positive shift for sustainable energy production, it does not wholly undermine the scheme. Nevertheless, the consistent reviews and continuous political doubt cast over the target implies that nothing is quite certain and understanding how the Federal RET interacts with the ACT RET is still important. This is discussed in the following section.

### **The ACT RET and its interaction with the Federal RET**

The ACT Renewable Energy Target is set at 90% renewable energy production by 2020 in order to reach the ACT target of reducing GHG emissions by 40% (of 1990 emissions) by 2020. This will help to move the National Capital toward carbon neutrality by 2060 (ACT Parliamentary Counsel, 2010; ESDD, 2012). Both the RET and the emissions reduction target are substantially larger than their federal equivalents and represent an ambitious and progressive approach to making the ACT a greener city. An important consideration in reaching the ACT RET is the role of the Federal RET. While the specificities of how the ACT target will be reached and its current progress is discussed in the next section, the interactions between the ACT RET and Federal RET are explored here.

Firstly, the Federal RET must be considered for its indirect impact on the ACT RET. Although the federal reduction of 20% is not considered as part of the ACT RET of 90%, it is considered in the 'business as usual' (BAU) prediction of emissions (EPD, 2014). The upside of this is that should the worst happen and the Federal RET be scrapped the ACT RET will not see a shortfall of 20% as a direct consequence. However, the BAU projections of GHG emissions, which helped set the ACT RET, would be altered if the Federal Target was scrapped and the ambitious goal of reducing emissions by 40% of 1990 levels will be harder (EPD, 2014). Similarly, the national price on carbon was also considered in BAU projections of emission and its recent cancellation will also undermine the ACT emissions reduction target (EPD, 2014). In this context it is therefore helpful to consider the potential removal of the Federal RET as detrimental to the ACTs reduction of GHG emissions but not necessarily lethal to the ACT RET

Examination of the Climate Change Action Plan 2 (2014)(AP2) further reinforces the notion that, at least from a policy perspective, the ACT RET is achievable with or without the Federal RET. The AP2 goes on to state that, '...policies to support renewable energy investments can be designed to ensure emission reductions above and beyond national pollution caps', suggesting that through policy design the ACT RET can be somewhat ring-

fenced from national objectives. Despite this, policy design alone does not guarantee successful policy delivery and the political discourse surrounding the Federal RET may also be considered as a possible factor in the delivery of the ACT RET.

Given the current strategy by the Federal Government to reduce the amount of renewable energy production to constitute a 'real' 20% by 2020 it seems that the ACT RET and indeed the ACT emissions reduction target should remain on track. This is a fairly positive outcome from a policy perspective with the main impacts being directed through continued changes and uncertainty for the renewable energy industry. How the ACT plans to engage renewable energy investment and support the industry to reach the target is discussed in the following section

## **The ACT Government strategy to achieve its RET**

### **How Canberra is becoming 90% renewable**

As stated earlier, the ACT RET is set at 90% by 2020, this will primarily be achieved by large-scale renewable energy projects. This section contains descriptions of the key pathways the ACT Government plans to utilize to achieve this target.

#### *Large-scale solar*

The ACT Government promoted the first reverse solar auction in 2012. In this process, suppliers lower their prices to compete against each other to win the support from government to develop and deliver large-scale solar generation. In a reverse auction, bids reduce in value as the auction progresses rather than increase as they do in a traditional auction (Department of Housing and Public Works, 2014). The competitive element within the reverse auction allows for the government to select the most cost effective option and also attracts large-scale projects to the Territory.

In September 2012, the FRV Royalla Solar Farm Pty Limited were successful in their bid and awarded a grant to develop a 20 megawatt proposal to be located at Royalla in the ACT (Environment and Planning Directorate, 2014). It was officially opened in September 2014. In August 2013, the Zhenfa Canberra Solar Farm One Pty Limited and OneSun Capital 10MW Operating Pty Ltd were selected and will be granted awards for their 13 and 7 megawatt proposals respectively. When completed, the solar farms will produce enough power to supply around 10,000 Canberra houses, reducing greenhouse gas emissions by 1,400,000 tonnes over 20 years.

#### *Large-scale wind*

The ACT is one of Australia's fastest growing wind investment regions. Currently, more than 800 megawatts of wind power is already in operation or planned for construction, with an additional 1700 megawatts in the early stages of development. By 2020 additional wind power investments will meet 45% of Canberra's electricity demand. This will be delivered by applying the same strategy as the ACT's first Solar Auction, with an initial 200MW wind reverse auction feed-in tariff process to be held in 2014.

#### *Energy from waste*

The ACT Government is also considering utilising energy from waste. Commercial premises and residential households in Canberra send more than 100,000 tonnes of waste to landfill every year. There is potential to produce renewable electricity with a regional bioenergy

facility converting ACT and regional organic waste. The ACT Government believes this could achieve more than 90% total resource recovery for the ACT, displace fossil fuelled power generation, and produce valuable products for agriculture and industry.

### *Next Generation Renewables*

The ACT Government and local businesses are collaborating with research institutions to become a centre for innovation in renewable energy technology. With the hope that the intermittency issues will be addressed by next generation renewable energy systems (i.e. developing battery and storage technology). In terms of solar technology, the ACT Government is seeking to identify potential sites and next generation energy systems to form the basis of a 50 megawatt innovation precinct. This aims to attract external sources of research and development funding (Environmental and Planning Directorate, 2014).

## **ACT Industry perspective**

### **Large-scale renewable energy providers**

Large-scale providers in the ACT interact at a high level with the local government, compared to small-scale operators, in order to achieve the ACT RET. This aligns with the government's own expectation that it can only fulfil its renewal targets by developing the large-scale operations. The large-scale providers are positive about the progress the ACT has made thus far to achieve its RET. One of the companies involved has noted that the reverse auction process creates a competitive framework leading to cost effective outcomes.

However, it is apparent from responses from the large-scale renewable energy providers, that potential threats to the current Federal RET are a risk to their businesses. This interaction between large-scale businesses and the Federal RET is identified by proxy through electricity retailers that are able to withdraw from long-term power purchases from energy providers. Therefore, large-scale renewable energy projects have not or may not proceed because they are somewhat dependent on the decisions made by these third parties. To negate this risk, one company has suggested a mandatory RET be imposed on electricity retailers within the ACT. However, the technicalities and politics of this suggestion remain ambiguous.

### **Small-scale renewable energy providers**

As the ACT RET largely focuses on large-scale renewable energy projects, small-scale retailers tend to not interact or directly benefit from the scheme. One business has identified that the benefits from the implementation of the ACT RET do not 'trickle down' to small-scale providers. This is to be expected as the policy aims to achieve its targets from large-scale renewable energy developments such as the Royalla Solar Farm and numerous wind energy projects rather than small-scale installation in residential homes. However, these businesses are solidly behind the policy due to its promotion and distribution of renewable energy as an efficient alternative to coal and gas.

### **The Australian Solar Council**

The Australian Solar Council (ASC) is a non-government body that promotes the scientific, social and economic benefits of solar energy. Its aim is to encourage greater research, development and adoption of solar technology within Australia. It also promotes public awareness and disseminates information about the technology that is more accessible to

the general public. Given that the ASC concerns itself with all matters regarding renewable solar energy, any changes to either the Federal or ACT RET would impact on their members who are made up of solar retailers. According to the president of ASC, Steve Blume, the recent Federal Government commentary about winding back the RET has decreased their membership and income significantly. This is due primarily to the expected 30-50% reduction in income for solar energy businesses. Blume expects that any significant downward shift in the Federal RET would also put great pressure on their own operations due to the standstill in investment in large-scale renewable energy and the decline in smaller scale solar businesses.

ASC continues to advocate the success of the RET and fully supports the ACT RET by providing policy advice to the ACT Government. Blume believes that the ACT's 90% reduction target is achievable within the 2020 timeframe and has emphasised the benefits that this would have for the community. The combination of the Commonwealth RET review and jurisdictions winding back their targets for political reasons has placed the ACT in a particularly advantageous position within the renewable energy market. However, the success of the RET also relies on public support and government backing. Blume has stated that governments are generally poor at marketing their own policies and rarely allocate sufficient funding to do so. Blume believes that ACT residents are "not very well" informed and this may be directly related to a lack of information about the benefits of supporting the RET.

Blume suggests a number of steps that could be taken by both the industry and the government to strengthen the policy. The use of collaborative linkages such as those offered through the South East Region of Renewable Energy Excellence (SERREE) could be an effective means of engaging across different energy sectors. Encouraging increased engagement between sectors on renewable and local businesses has been a successful venture internationally. Furthermore, greater education, advocacy and outreach from the government regarding the opportunities and benefits would also aid in better achieving the ACT RET.

### **Future industry providers**

The states and territories of Australia have varying interactions with the Federal RET depending on a range of factors including their level of access to the coal, gas and hydro energy sectors. The flexibility of the ACT Government's approach (as in AP2, 2014 and identified in section 1.2) enables to territory to respond proactively given potential changes to the Federal RET, such as supporting additional large-scale renewable energy projects. Therefore, the ACT Government has the possibility to become an epicentre for the renewable energy industry in Australia if other states are disadvantaged by changes to the Federal RET. This will likely result in further national and international investment, which would mean a change in the composition of renewable energy providers to achieve the ACT RET.

Although the future for the development of renewable energy in the ACT is generally positive in this regard, there remain some significant questions. For example, if investment increasingly comes from offshore companies, what, if any, are the implications for the ACT trying to achieve its target in terms of different objectives and accountability? Moreover, a shift to international companies implies a lost opportunity for locally based providers. Do



locally based providers need government subsidies or should they have to compete on their own merits? Finally, if the ACT was to become a hub for the renewable energy industry, could it achieve its target more quickly, is there potential to increase the RET and provide an example for other Government's to follow?

## Public Awareness

### Importance of public awareness in achieving the ACT RET

Public awareness regarding government policy is imperative in order to achieve and support its targets and goals. Successful environmental policy, e.g. adopting an RET, has been linked to increased public understanding and concern for government strategies (Eden, 1996). Therefore the success of the ACT RET is in some ways contingent to community awareness of both RETs and what they detail.

### ACT community-polling responses

It was found that respondents were generally unaware of the targets initiated by the ACT and Federal Governments, (see figure 2). 30 out of the 40 respondents were unaware of the existence of either the ACT or Federal RETs. Furthermore, within the limited amount of respondents who had heard of the ACT RET, fewer than 5 were able to articulate what the actual target was.

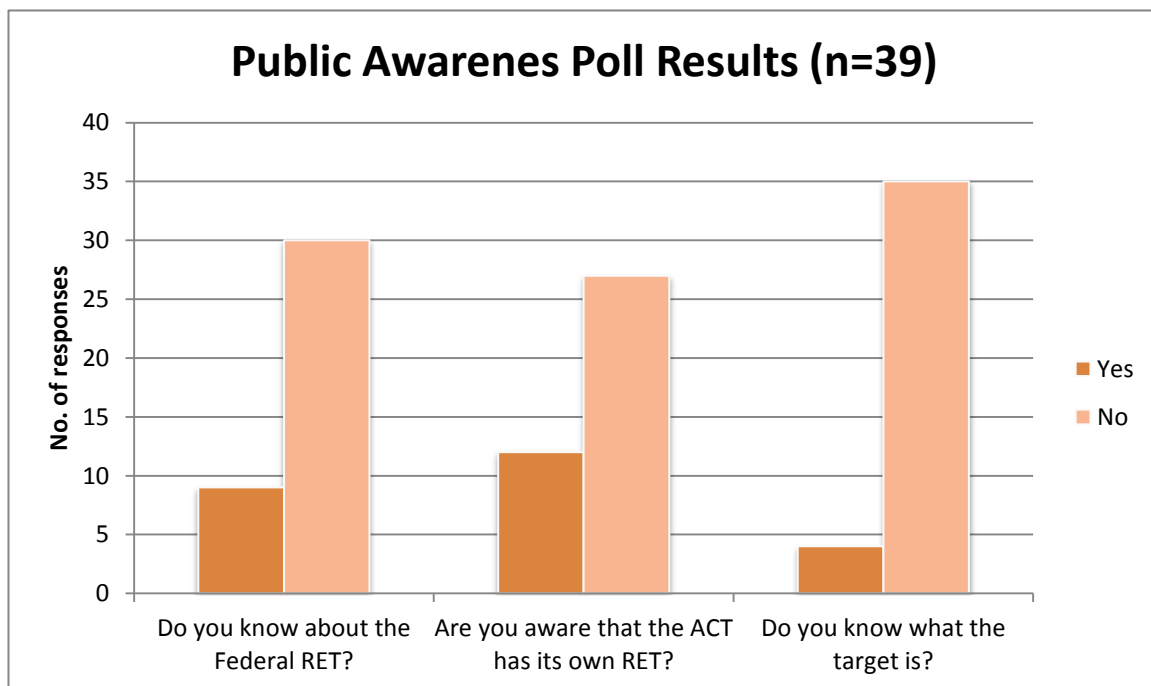


Figure 2 ACT Public Awareness of the ACT and Federal RETs

These findings are in line with a larger community survey of Canberra households conducted by The ACT Environmental Planning Directorate (2013). Results of this survey also indicate that community knowledge of the specific actions undertaken by the ACT Government is relatively quite low.

### Implications for the ACT RET

Given the reported general unawareness of both targets, a key implication within the context of the Federal and ACT RET is that an increased politicisation and confusion around these issues (as outlined in section 1) may influence public perspective and ultimately shape the success of the ACT RET. Therefore, any negative light shed on either target by an opposing body may create community opposition, threatening the existence and future development of the ACT RET.

## **Recommendations for the Conservation Council**

1. The Canberra Conservation Council should continue to support the ACT RET and the Federal RET, although the Federal RET is not critically linked to the ACT RET.
2. The Conservation Council should seek to improve community understanding and knowledge regarding the ACT RET for two reasons. First and foremost, to strengthen progress of the policy by negating the potential of community opposition. Secondly, to support the positive effects from the promotion of renewable energy as felt in the small scale industry.
3. The Conservation Council should continue to monitor the progress and potential of the ACT RET in terms of future composition (i.e Canberra as a hub for the industry and Next Generation Renewables). Dependent on changes and developing interactions the Conservation Council may adjust their standpoint accordingly.
4. To negate the risks regarding dependence on third parties as identified by large scale developments, the Conservation Council should explore the potential for a mandatory RET for electricity providers.
5. The Conservation Council should consider supporting the use of collaborative linkages such as those offered through SERREE.

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