RENEWABLE ENERGY IN AUSTRALIA: POLICY, REGULATIONS, AND INSTITUTIONS

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Overview

It is now widely accepted that climate change is one of the most pressing challenges facing humanity, due to its detrimental impact on socio-economic and natural systems (IPCC, 2007). The climate change challenge is an outcome of increase in global temperature (global warming) caused by anthropogenic greenhouse gas (GHG) emissions. The use of fossil fuels for electricity generation is the single largest source of these emissions, responsible for almost one-fourth of global emissions (IPCC, 2014). Further, it is expected that unless significant steps to be taken to de-fossilise electricity generation, global emission levels will increase by at least 35 per cent, by 2040 (compared with 2015 levels), which would potentially intensify the climate change challenge (IEA, 2017).

Recent years saw growing efforts to search for options to defossilise electricity generation, especially in Australia (the focus of this paper), which is considered as one of the worst emitters in the world in terms of emissions per capita (The Climate Council, 2015). Among various options under consideration, a consensus seems to have reached that renewable energy (such as, wind and solar) is an attractive option.

Considerable work has already been undertaken to discuss the role of renewable energy in electricity defossilisation. This discussion has primarily been confined to the techno-economic aspects of renewable energy, focusing on its technical potentials (CEC, 2009; Shafiullah et al., 2012; Yusaf et al., 2011), cost-effectiveness (ATSE, 2009; Kann, 2009; Lu et al., 2017; Trainer, 2017), economy-wide benefits (such as, price reduction, investment attraction, and job creation) (SKM, 2012, 2013; The Climate Institute, 2011), and risks (for example, high intermittency, and merit order effects) (Diesendorf, 2007; Needham, 2008; Prasad et al., 2017). There is rather scant discussion of the policy, regulatory and institutional aspects of renewable energy. These aspects are, however, critical, because the extent to which renewable technologies are likely to find policy/political acceptance will be largely determined by these aspects. Insights into these aspects are therefore pre-requisites for developing a more concerted discussion on the role of renewable energy in the Australian electricity landscape. The primary objective of this paper is to develop such insights.

Methods

The method adopted in this paper is empirical-based, focusing on assessing the policy, regulatory and institutional settings for renewable energy in Australia. Policy setting, in the context of this paper, is referred to as the political processes for making policies to promote renewable energy. Regulatory setting is about the prevailing regulations for governing renewable energy in accordance with the underlying policies. Institutional setting focuses on the responsibilities of various institutions involved in implementing the policies and regulations for promoting renewable energy. The policy, regulatory and institutional settings for renewable energy in Australia are assessed in this paper for four time periods – the pacesetter (mid-to-late 1980s to 1990), the changing stance (1991 to 2000), the laggard nation (2001 to 2007), and entrenchment of the stance (2008 to the present) – according to the changing position taken by the Australian government towards climate change challenge and the role of renewable energy in redressing this challenge.

Results

The main results of the paper are presented as follows:

The policy setting for renewable energy in Australia has, in the 1980s, been guided by genuine concerns about climate change. In these years, Australian governments acted as a global leader in proposing measures to combat climate change, including increased use of renewable in power generation. Later, however, as the economic impacts of such policies became clearer, especially on emission-intensive industries, Australian governments drastically changed its environmental position. The release of several key policy documents thereafter (for example, Energy White Paper) firmly established a stance that favours socio-economic objectives, such as, investment attraction, job creation, and international competitiveness. Issues of climate change assumed a dormant role. It is therefore a natural outcome for Australian governments to dither and postpone making strong policy efforts to promote renewable generation to the extent considered essential for redressing the climate change challenge, as

such efforts are perceived as economically undesirable. As a result, despite more than two decades of efforts to develop policies for promoting renewable energy, existing renewable energy policies in Australia remain largely discordant, fragmented, and conflicting.

The task of developing regulations – under the guidance of above-noted, rather amorphous policy setting – therefore becomes extremely difficult. This is because any major regulatory changes like the introduction of carbon tax typically affect a diverse range of socio-economic interests. These changes are therefore likely to attract strong opposition from existing political power structures, which could in turn delay or postpone the legislative process. The tortuous history of carbon tax legislation in Australia may lend some credence to this observation.

The establishment of institutions to implement new policies and regulations is an equally difficult task, due mainly to the fact that power system is deeply enmeshed in the broader energy system, which in turn is closely linked to the wider social and economic systems. The implementation of new policies and regulations may inevitably lead to changes in the power system (in this instance, a significant increase of renewable energy in electricity generation), which will have impacts on the broader energy system. These impacts will then lead to wider socio-economic and political consequences. These consequences can invite opposition from impacted groups, resulting in significant administrative inertia.

Conclusions

This paper demonstrated the significance of the policy, regulatory and institutional settings in promoting renewable energy.

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