

WHAT IS ENERGY POLICY, AND WHY DO WE NEED IT?

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The New Collins Concise English Dictionary defines energy as "the capacity of a body or system to do work" with that capacity being "measured in joules". Policy, on the other hand, is defined as "a plan of action adopted or pursued by an individual, government, party, business, etc." Energy Policy, therefore, could be described as "a plan of action regarding the use of energy resources measurable in joules". Usually that plan would be developed by the State as to the best use of energy resources from a public perspective.

Wirth, Gray and Podesta (2003) note an early example of the use of energy policy, citing Lord Selborne's dismissal of using fuels other than coal for the British Navy last century. Later, Winston Churchill required that oil burning battleships be built and, in doing so, was able to increase ship speed and reduce refuelling time. The consequence of that decision was reliance on Middle Eastern oil and this gave rise to the creation of the Anglo-Persian Oil Company, the forerunner of British Petroleum.

The implications of Churchill's energy policy are far reaching, in that much post WWII policy has been driven by questions of energy self-reliance versus dependence. In this respect, policy analysts have consistently pursued energy supply security until quite recently. Against this background, Finon (1994) explains the change in government thinking that has taken place over the last 20 years, from a position of being concerned about security of energy supply to today's preoccupation with energy usage in an environmentally sustainable manner.

Those changing philosophies regarding energy policy objectives are also consistent with changing political ideologies since WWII, which were largely dictated by the tensions that operated between capitalism and Marxism. During the period of the Cold War, for example, the United States and the former Soviet Union focused largely on domestic energy production rather than reliance on international trade, which might be at risk of interruption.

There have been changes in political philosophies within the Western world during this time as well. The Great Depression of the 1930s was broken by the New Deal policy of applying Keynesian economic theory, which saw government spending on major projects and economic growth resulting from the consumption associated with those projects. Post Keynesian economists and supporters of modernisation theory placed less emphasis on the role of the State, but nation building and governmental control over the use of energy resources was a very much a part of energy policy from the 1950s through to the late 1970s.

The conjunction of the New Right thinking emanating from the United Kingdom, in particular, and changing perceptions of the risks attendant with purchasing oil from trading partners led in the late 1970s and early 1980s to governments having a diminished role in energy markets and policy. Finon (1994) provides specific examples of this changing philosophy, such as "the Reagan administration believing that the best way to achieve energy security was to couple market forces with a suitable insurance policy involving diplomatic and military action and the filling up of strategic reserves". In this regard, a cornerstone of US energy policy has been engagement with the Middle East and the building of strong relationships with countries like Saudi Arabia. More recently, with the destabilisation of Saudi Arabia, it can be argued that the US has developed an alternative foothold in the Middle East through its occupation of Iraq. The failure of the USSR has made the implementation of the US's Middle Eastern foreign policy considerably easier than otherwise it would have been.

Thus, with acceptance that the international trading of energy products can coexist with a prudent energy security policy, the focus of the last 20 years has been on increasing energy market efficiency. In turn, this has led to global energy market reform through measures such as free trade, market deregulation, privatisation and open access arrangements for the energy distribution subsector (Finon, 1994).

These reforms have been very much in line with the neo-liberalist thinking that has prevailed over the last 20 to 25 years. During this time, energy policy has been based on the premise that markets that are economically efficient from a microeconomic perspective are also in a nation's best interest from a

macroeconomic viewpoint (Finon, 1994). While market efficiencies have certainly resulted from reform, there have been some negative outcomes as well. One of these is the lessening of support for energy projects that are not commercially viable from a microeconomic perspective, but may be in the public's best interest (Finon, 1994). An example of this in New Zealand is the sale in the early 1980s of Petrocorp, the government's oil and gas exploration and production arm. As the New Zealand government no longer has the capacity to explore for oil and gas reserves directly, it is reliant on private companies to achieve that outcome. The reality, however, is quite different in that private companies are not always motivated to explore for new oil and gas reserves because sometimes it is not in their best economic best interests to do so¹. Consequently, New Zealand is facing a decline in its gas reserves, a real possibility of stranded gas infrastructure assets, declining fuel diversity and a need to build new electricity generating capacity. That capacity may well need to employ forms of primary energy that are not consistent with the country's climate change objectives.

A further negative consequence of energy reform policy was the reduced emphasis on demand-side management (Finon, 1994). Private energy companies are in business to maximise long-term returns to shareholders and this quite natural profit maximisation objective is dependent on maximising consumption, which in turn is inconsistent with the public need to conserve energy resources.

Therefore, the belief of the 1980s and 1990s that microeconomic efficiency is also optimal from a macroeconomic standpoint is perhaps now seen as misplaced and incompatible when issues such as energy conservation and environmental management are considered. Given these questions of long-term sustainability and concerns relating to greenhouse emissions, a particular focus of contemporary energy policy is on the development of renewable energy sources. Other than for hydroelectric generation (which has been the beneficiary of large-scale, macro economic nation building exercises for decades) renewable energy projects have previously not received much attention because non-renewable projects are considerably more cost-effective when only the private cost of production is at issue. However, the valuation of externalities by governments has led to the assignment of social

¹ Shell International announced on 8 August 2003 that it does not intend to explore for oil and gas in New Zealand for at least twelve months (Stuff.co.nz, 9 August 2003). Anschutz, an American company, has found gas off the New Zealand coast, but extraction is not viable for the firm until electricity prices increase further.

costs of production to energy companies through measures such as taxation (Finon, 1994). An alternative policy to these pricing mechanisms has been the imposition by government of specific requirements on industry to introduce antipollution technologies to their systems (Finon, 1994). Such measures have, however, denied businesses the opportunity to identify the least-cost means of minimising externalities such as emissions.

The resurgence of energy policy and government intervention has led to the establishment of principles such as having "no regrets". This policy aims to strike a balance between meeting energy demands and sustainability. Specific examples include: the removal of coal subsidies; encouraging efficient generation; the consideration of nuclear power as an option and; the removal of barriers to entry for renewable energy project developers.

Indeed, renewable energy has been a particular focus of recent energy policy initiatives, which have been designed to discover why renewable energy options have not achieved a significant market presence. Some of the measures that have been developed to address this problem include: having mandated renewable energy targets; the provision of subsidies for renewable energy; the incorporation of externalities into energy prices and; government-sponsored research aimed at improving renewable energy technologies.

The recent electricity blackouts in New York and London may, however, sway energy policy away from environmental matters to some degree. Instead, it is likely that the UK and the U.S will become more inward looking and revert to addressing security of supply issues. The US National Energy Policy, for example, already provides for upgrading of transmission systems but implementation of the policy requires advancement (Eberle, 2003).

Overall however, Finon (1994) concludes that energy policy trends are dictated by three factors. The first of these is government recognition of the negative externalities associated with energy consumption and a consequent desire to minimise those externalities through intervention that supports energy efficiency and demand-side management. A second factor is the degree to which energy policy features on governmental agendas depends on energy prices, in that security of supply

concerns ease while international energy prices are low. Thus, the degree of governmental intervention through the implementation of energy policy is at its lowest under these conditions. Thirdly, Finon (1994) concluded that political ideology has great impact on the level of government intervention in energy markets and, in this respect, the pendulum appears to be swinging intermittently between a WTO supported free trade orientation, on one hand, and specific intervention for reasons of sustainability, on the other.

Contemporary thinking appears now to be going beyond the neoliberal view (of letting the market rule and minimising governmental intervention) to a new paradigm. In New Zealand, for example, the current government has four touchstones (economic, environmental, social and cultural) that it uses in determining public policy and these must also be taken into account when determining energy outcomes. Therefore, neoliberal or economic objectives are accepted as important but not to be considered in isolation. Such an orientation supports Finon's (1994) assertion that energy policy is "influenced by cultural and ideological change".

While energy policy might ebb and flow according to prevailing political philosophies, Harman (1996) outlined in her description of the Australian national competition policy network the need to give consideration to all stakeholders affected by a particular policy development. Those stakeholders include the federal government, state governments and local authorities, trade unions, industry, consumers and political parties. Aside from the need to be aware of the range of stakeholders that are impacted by policy, Harman illustrates how overarching policies such as Australia's National Competition Policy can shape energy thinking.

Perhaps then, Hooker (1989) is correct in his declaration that public policy has been directed by whatever political ideology has been in vogue at the time, whether that involves strong public sector involvement or a free market orientation. Each extreme has its limitations and advantages and so perhaps the key to an enduring energy policy is finding outcomes that maximise the long-term planning advantages that the state offers and the market efficiencies offered by the private sector.

This essay has concerned itself with national energy policy so far, but what of global issues? Two particular concerns need to be addressed in this context. The first deals with Wirth et al's (2003) correlation between access to energy resources and economic performance, while the second considers global warming and the implications of the Kyoto protocol. On the first of these two issues, Wirth et al (2003) describe how one third of the world's population has access to first world quality energy, a further third has intermittent access and the final third of the world's population have virtually no access to energy resources.

The most energy deprived peoples are also the world's poorest and this group is rising in its number. Access to energy therefore is a major development issue, but it is also one that is incompatible with environmental sustainability given current usage of energy technologies. For example, if all mankind were to enjoy western levels of energy consumption using the current mix of primary energy, then emissions will never reached a sustainable level. On the question of the Kyoto protocol, therefore, not only must the US accept emission reductions over the international trading of carbon credits, the western world must also provide support to developing nations since it is these nations where emissions of greenhouse gases are growing fastest (Wirth et al, 2003) . That support must be aimed at enabling developing nations to strike a balance between meeting legitimate energy demands and questions of sustainability.

Ultimately therefore, energy policy involves an holistic analysis by public agencies of energy resources and demand for those resources so that public needs can be met today and in the future. That analysis should set the results sought by the State and parastatal entities, together with the tools needed to achieve those outcomes. The mix of global, national, economic, social, cultural, environmental and security of supply imperatives are a complex mix. Getting the balance right requires planning, action and control, which is why energy policy should be a core government activity.

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