

# Assessing the Impacts of Renewable Energy Projects

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Communities have a love/hate relationship with renewable energy projects. Everyone supports the use of renewable energy but they want them to be built elsewhere. There is also likely to be competing users for the resource. Unfortunately renewable energy projects are generally very site specific being located where the natural resource occurs. Unlike fossil fuels you can't transfer the resource to use it at a 'better' location. This raises issues of national interest vs local and private rights. How can we compare these often competing aspects. Projects can be built to meet appropriate environmental standards but how can we measure the change in visual amenity, in the case of installation of a wind turbine, or the change of a flowing river into a lake with the construction of a hydro project. Assessments are generally subjective and a matter of opinion. The lake creates new benefits which may be welcomed by some, but others may lose what they currently value. Assessing the impacts of renewable energy projects invariably depends on who shouts loudest.

## **Consultation of Renewable Energy Projects**

Projects are a "free for all fight" in that the media are able to obtain good copy from those who shout loudest. Proponents for a project have the financial resources to circulate information on the project, promote the projects benefits, and hold public meetings. The opponents have few resources to draw on and out of frustration turn to shouting in order to gain attention. A few opponents to a project can capture news media by several high profile activities.

Renewable energy projects are often controversial because they potentially affect a wide range of local people. This applies particularly to wind, hydro and geothermal opportunities. Bioenergy, and solar opportunities are less likely to be controversial while marine opportunities when they eventuate are expected to be controversial.

The potential for change arising from a project often results in negative reactions to that change from local parties. There are often few local supporters of a project. Support is usually from those further away.

Many of the affected parties can become confused over what the potential effects from the project really are as various conflicting versions of likely impacts circulate. The opponents tend to become emotive despite factual information provided by the project proponent.

## **Common Dilemma**

A common dilemma is that everyone supports

- Renewable energy
- Assisting future generations
- Sustainable energy policies

But everyone wants them built elsewhere because the project will

- Spoil my view
- Change surrounding land use
- Take away my rights

Under this situation many significant infrastructure projects would not proceed today. This would include most NZ hydro power stations, most geothermal projects, and the construction of electricity power lines connecting projects to communities. All these would be **NIMBYs** (Not in my backyard).

### **Renewable Energy Characteristics**

Renewable energy projects are often site specific – eg windfarm, hydro, and may have limited alternative options – eg specific dam site.

All renewable energy opportunities have effects either through a change in natural landscape, or change in access to natural resources. There may also be a number of neighbours. Hydro and wind projects in particular can have a potential impact over large land areas.

### **Investment in Renewable Energy Projects**

Construction of a renewable energy project requires an investor with deep pockets as a renewable energy project requires extensive, and thus expensive, up-front investigations with no certainty of success in obtaining;

- An economic investment
- Resources consents

Renewable energy projects also incur a large capital cost although ongoing fuel cost is low.

Renewable energy projects tend to have long project life eg hydro 100 years so having only a 35 year resource consent can create a significant investment risk. This risk is heightened by consent review provisions.

### **Public Benefit Generally Greater Than Private Benefit**

The national benefits from use of renewable sources of energy are generally greater than private investment benefits. Sustainable use of energy sources is a public good because the beneficiaries are generally future generations.

Renewable energy is generally from an often unlimited natural resource and avoids the use of finite fossil energy.

From an investor's perspective however renewable energy projects have low investor benefit as investors generally seek short financial pay back

While a renewable energy project will generally fix future energy costs there is often a high risk to continual access to natural resources for fuel through consent renewals.

The national interest viewpoint is often not presented to support a project and as a result local councils are often in the invidious position of not having national interest information. This can result in a high cost to NZ Inc when suboptimal energy supply solutions are chosen.

It is often difficult to compare national vs local effects. As a result the conflict over impacts of a project often arise because there is confusion between;

*National interest*  
vs  
*Private property owners*  
&  
*Perceived community interests*

### **Mechanisms for Addressing Impacts**

In NZ we have some very sound mechanisms for addressing the impacts of a project;

- Resource Management Act – effects based
- Anyone can have a say
- Delegation to local communities for decision making
- Electricity Commission
- National Policy Statements
- National Environmental Standards
- Guides to Councils
- Evidence of the national interest - Govt agencies

*All need good factual evidence*

### **Why Is There Not More Public Support**

Local public support for a renewable energy project is often lacking because local communities take the view:

- Years of work and toil on private property may be affected by a project
- Why help private infrastructure companies make more profit
- Community responsibilities not accepted
- Ensuring alternatives are addressed
- Often emotive rather than factual

### **How Can We Assess Projects**

Assessing the impacts of renewable energy projects is difficult because:

- Difficulty of comparing private and public values
- Difficulty of establishing what is the collective view
- Establishing values for future generations
- Separating the emotive from the rational
- Identifying and quantify intrinsic values.

Renewable energy projects also have a wide range of possible impacts including:

- Visual
- Land use
- Cultural and recreational
- Transport
- Infrastructure
- Noise
- Affects on neighbours
- Geological
- Ecological

The local community may also have a lack of factual information on the project:

- Community often not aware of alternatives
  - Good idea but insignificant
  - High cost difference
- Few independent advisors at early stage
- Lack of funds to undertake proper analysis
- Poor consultation
- Closed minds
- Effects often a matter of opinion

### **Basic Civics Questions Need to be Addressed**

Much of the problem arising between a project proponent and opponents arises from the lack of basic understandings of civics:

- Responsibilities we have as citizens
  - Collective responsibilities
  - For the common good
- How far do private property rights go
- Community rights
- What role does the government have
- Has applied to all communities
  - eg Romans grappled with it
- A major issue for democracies

### **What Can We Do About It**

There are a number of things that the community can do to improve sound use of renewable energy sources

- Responsibilities of being a citizen
  - Teach civics in schools
- Ensure Councils have adequate information of the national interest
  - Government agency involvement at hearings
  - Expert evidence
  - All Government views
- Assist private parties get good evidence of the effects on them
- Good public consultation with facts on alternatives