



ENVIRO-MARK SOLUTIONS LIMITED



INSPIRING ACTION FOR A BETTER ENVIRONMENT

**Certified “green” electricity:
What would it look like in NZ?
How would you know you are
getting what you paid for?**

What is certified “green” electricity?

- A tradable intangible commodity – a product – the environmental attributes of electricity generated using renewable energy sources
- Usually a certificate/tariff/tag (REC) is issued and sold separately to the tangible commodity electricity
- The certificate represents the proof that 1 MWh of electricity was generated from an eligible renewable energy source
- What you pay for when you buy renewable electricity certificates is the benefit of displacing other non-renewable sources from the grid e.g. GHG emissions reduction
- Renewable are considered to be:
 - Wind
 - Solar
 - Wave
 - Geothermal
 - Hydro
 - Biomass



Where is certified “green” electricity sold?

- Australia, Chile, Europe, Japan, UK, USA
- “Green” certificates cannot be traded between countries



Compliance markets

- Renewable Energy Credits are created by legislation to incentivise and deliver government targets for renewable generation
- The utility is awarded a credit/certificate for each 1 megawatt-hour of renewable electricity
- The utility sells the credits separately from the electricity
- The credit owner has purchased a claim that it has consumed a renewable portion of the energy on the grid
- The credit purchase affects how the renewable energy is distributed not how much was actually generated



Voluntary markets

- Renewable energy certificates are created by a recognised scheme
- The utility purchases a credit (the environmental benefit) for each 1 megawatt-hour of renewable electricity
- The utility sells the certified “green” electricity and cancels an equivalent number of credits
- The cancelled credit is evidence of origin of the renewable energy for the consumer
- Must not be counted for government targets for renewable energy



Standards

- EUGENE – EU clean-e programme (dismantled in 2009)
 - Chile, Finland, France, Germany, Spain, Sweden, Switzerland
- Green Power (Australia)
- OFGEM (UK) – green energy supply certification scheme
- TUV SUD standard CMS 80 EE01



Why certification?

- Third-party independent audit confirms that the amount of green power sold to customers equals the amount of green power generated.
- The green power behind the product was produced and placed on the grid.
- Confirms the product's environmental benefit.
- Serves as a form of buyer protection against deception or fraud.
- Includes standards of conduct for ethical behaviour including marketing claims by suppliers.



What would the rules look like?

- From new/recent* renewable energy projects
- Genuinely sustainable projects
- Can be traced back to source
- Third party suppliers included
- Production and demand fully balanced
- Additional
 - has not been double counted
 - does not contribute to government targets for renewable energy
- Reduction of a minimum threshold of GHG emissions
- Verified by independent audit
- Available, marketable amount of “green” electricity is certified
- Facilitates installation of new renewable energy generators

*new plant, refurbished plant, increased capacity that does not date back more than 36 months, can be



What are the advantages?

- **Recognition** – Using green power will gain performance points for Green Building Council LEED (USA) and Green Star (Australia)
- **Environmental stewardship** - Choosing green power is a simple step towards creating a more sustainable organisation.
- **Public image** - Green power can help improve an organisation's public image by demonstrating environmental stewardship.
- **Customer loyalty** - Demonstrating environmental stewardship through green power may help increase an organisation's customer and investor loyalty.
- **Employee pride** - Employees prefer to work for companies that give back to their communities and to the environment.
- **Power portfolio management** - Because some green power sources have no fuel costs, green power can help protect your power portfolio from volatile prices of fossil-fuel-generated electricity.
- **Power reliability** - On-site renewable generation can be a more reliable source of power than power distributed through the electric grid.



What is the appetite in NZ?

- External opinion – it would not work in NZ given:
 - the high level of renewable electricity
 - the structure of the electricity industry
 - the likely sources of future electricity supply (mostly wind)
 - the policy environment
 - Commerce Commission would not allow it





The “green” electrons argument?

- Renewable and thermal electricity is mixed up on the grid and you will not get the “green” electrons that you paid for
- Electricity is sold to us as Meridian, Genesis, Trustpower etc branded electricity. Do we know if we get Meridian electrons?
- What about the Powershop products? How can I tell that I got the product I paid for?





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90 units
\$23.00

Supercharged



\$120



STANDARD POWER

Same electricity.
Better deals.

AIRSHED ENERGY




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VALUE PACK



Grid average emissions factor?

- You can't put zero in your calculation when you buy 100% renewable electricity because its mixed up with the thermal electricity on the grid
- Why not remove certified “green” electricity from the grid average calculation as it is sold?
- That would drive up the grid average emissions factor and incentivise the development of more renewable generation



Who we are

We provide environmental performance improvement programmes based on solid science



Subsidiary of Landcare Research New Zealand Limited



Crown Research Institute, 100% owned by the NZ government



Over 15 years of research on Business & Sustainability underpinning the development of our programmes






Landcare Research
Manaaki Whenua



Our programmes

We provide assurance against recognised environmental performance standards and international best practice



-  First step-wise environmental management certification programme in NZ.
-  First internationally accredited carbon certification programme in the world.
-  Only PAS 2050 accredited product carbon footprinting certification programme outside UK.



Our credentials

We provide credibility and integrity to businesses reporting, or making claims based on, their environmental performance

-  Accredited by Joint Accreditation System of Australia and New Zealand (JAS-ANZ), member of International Accreditation Forum
-  CEMARS is recognised by the UK government as equivalent to the Carbon Trust Standard for compliance reporting
-  CEMARS is approved as a verification standard for companies reporting into the Carbon Disclosure Project (CDP)



Our achievements

2 major international collaborations

5 countries

435+ customers

2,500+ certifications

360,000 tCO₂e offset through our customers

135 million tCO₂e certified

17% reduction across programme

41% of EMS certificates in NZ

97% of accredited GHG certificates across Australasia

2nd largest market share of organisation carbon footprint certification in UK



New Zealand



imagination at work



United Kingdom



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