

Response to the review of the Renewable Energy Target

Author

Ken Davey

MT Energie

Sales and Project Development

Australia

Phone 61 (0) 427 268 006

ken.davey@mt-energie.com



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1: Why were the RET and REC schemes implemented?

- The RET and the REC schemes were implemented to:
 - drive investment in Australia's renewable energy industry and to support its growth
 - drive the on-ground deployment of a broad range of renewable energy projects into the Australian market

2: Are the RET and REC schemes fulfilling their founding objectives?

- The schemes are no longer fulfilling their founding objectives and in reality have not done so for some time
- A market was created in support of the RET – the REC market. Businesses made investment decisions based on that market being operated competently and always with a clear vision on the founding objectives of why the market was created in the first place
- The market has failed, and as a result the LGC price has collapsed
- Much has been said and written about why the LGC price has collapsed but the fact remains it has collapsed and those responsible for creating this market condition now need to rectify it in order for this market to once again support the founding objectives for which it was created

3: A new RET signal is required to drive the deployment of a '*diverse range*' of large-scale renewable energy technologies

- For the market to work as intended, and to drive the on-ground deployment of a diverse range of large-scale renewable energy technologies/projects (not just wind), the RET signal has to be strong enough to support a commercially viable LGC price
- Currently the market is clearly saying, through the LGC price, that the RET target is too soft. Again, it matters little how the market got into this condition but it is incumbent on those who created this market condition to:
 - recognise the problems,
 - respond to these problems in a timely manner,
 - restore and maintain confidence in the market in order to drive the investment in, and the on-ground deployment of, a diverse range renewables in-line with the founding objectives of the market
- The current condition of the market is reflected in comments made by large energy retailers such as Origin and TRUenergy. These companies have openly stated in the press within the last few weeks that they have sufficient RECs to last until 2015/2016
- These large retailers to all intents and purposes are now on the sidelines of the renewable energy market with just a toe in the water

- They are not on the sidelines because the founding objective of driving a diverse range of large scale renewables into the market is being met; they are on the sidelines because they quite rightly took advantage of some unfortunate decisions that were made in respect of the management of the REC scheme that led to a flood of RECs entering the market
- The new RET signal must also recognise that in order to drive the deployment of a diverse range of large scale renewables a cap must be placed on wind. If wind is not capped it will:
 - result in a lack of diversity in the market
 - stifle the normal development, deployment, and maturation cycles of other large-scale renewable energy technologies/projects;
- An unbalanced approach to wind energy may result in yet more investment in grids and related infrastructure

4: A revised and flexible RET and a supporting LGC

- It is recommended that the RET target should be expanded to 25% renewable energy by 2020 with revised year-on-year incremental targets
- This is the simplest way to address the issues caused by the flood of RECs into the market and to re-engage the larger retailers with the market

- It is further recommended that a cap be placed on wind to the effect that no more than 40% of the expanded RET can be met by wind year-on-year
- RET modelling, and the subsequent expansion of the RET, should be undertaken to support a LGC price of above \$65.00
- \$65.00 should become a 'LGC trigger-price' that triggers an automatic review of the RET
- Investment certainty does not come from an inflexible target that ignores its underlying market. Investment certainty comes from a flexible target that maintains commercially viable market conditions in support of the deployment of a diverse range of renewable energy projects

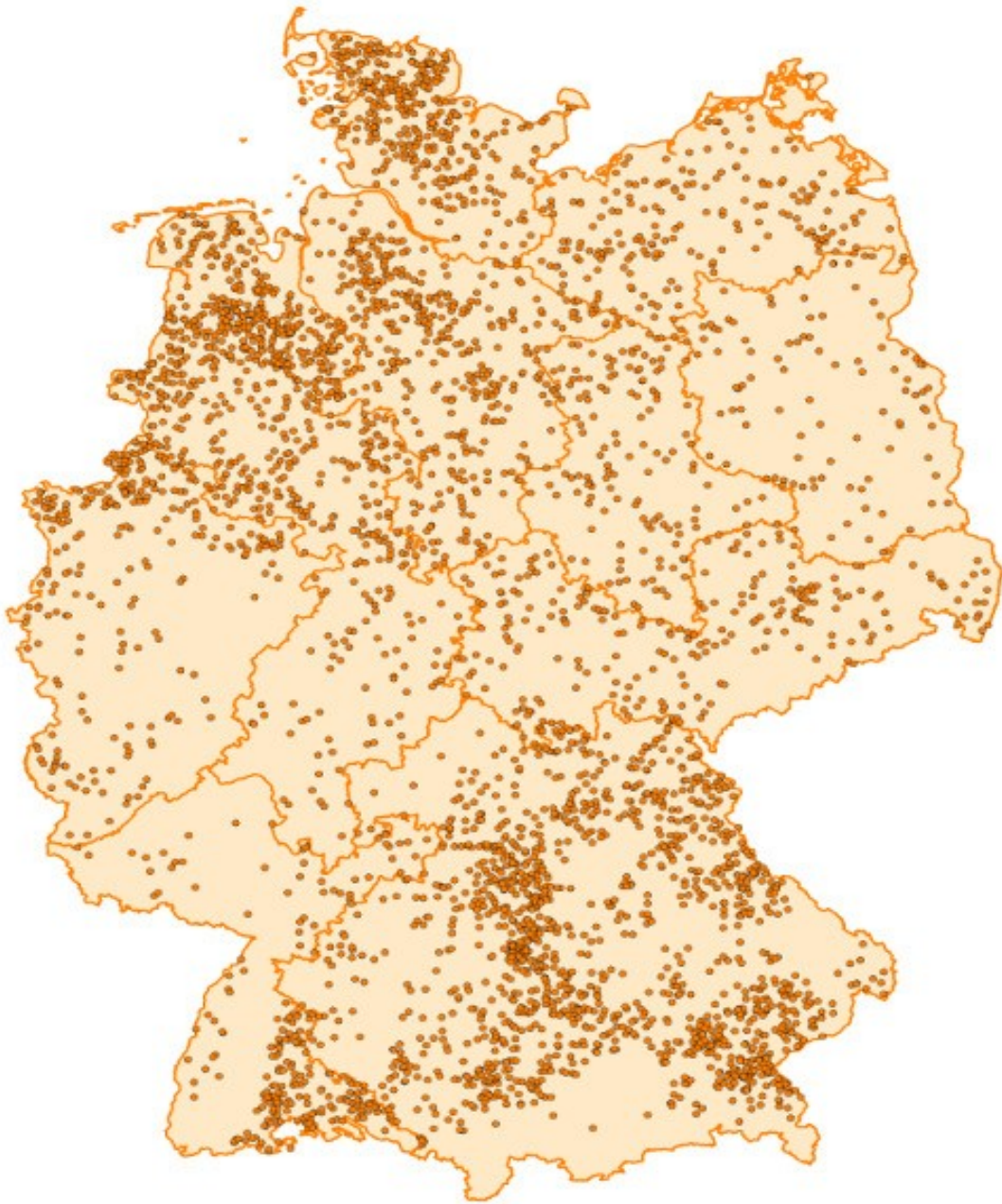
5: The total separation of generators from retailers

- The structural separation of Telstra was seen as fundamental to addressing a range of issues afflicting the telecommunications market. For all these same reasons the energy generators and energy retailers must be completely separated within the energy market
- It is recommended that this issue be addressed as a matter of priority

6: Rewarding and *driving* energy efficiency

- One of the prime enabling technologies for driving down greenhouse gas emissions and substantially increasing energy efficiencies is gas fuelled cogeneration and trigeneration
- This has been the subject of numerous reports on a global scale for well over a decade
- Cogeneration simultaneously cogenerates electrical and thermal (heat) energy whilst trigeneration simultaneously cogenerates electrical, heating, and cooling energy
- These systems can deliver energy efficiencies in excess of 90%
- Via the multiple forms of energy that are simultaneously cogenerated, these systems can also deliver on one of the core principals of energy efficiency which is ***applying the most appropriate form of energy*** to any given task
- When these cogen/trigen technologies are combined with a ***renewable gas such as biogas or synthesis gas*** the benefits are increased exponentially
- All of the energy being produced by a biogas or synthesis gas fuelled cogen/trigen system is renewable energy: but only about 40% of that renewable energy is in the form of electricity. This means LGCs can only be generated against 40% of the renewable energy being generated

- The fact that the other forms of cogenerated renewable energy are not entitled to LGCs is an unfortunate market impediment that is holding back the deployment of one of the most enabling suite of technologies
- Renewable gas fuelled cogen/trigen can be deployed widely and rapidly. This has been practically demonstrated beyond any doubt
- In Germany, around 2,700MW electrical of biogas fuelled cogeneration has been deployed into the market in a little over **one decade**
- Put into an Australian perspective, this is **more** electrical generation capacity than Australia's **largest coal fired power plant**
- More than 90% of the 7,000 biogas plants scattered across Germany are farm or farm cluster based systems
- As depicted on the following page, this is diffused, decentralised, **baseload** renewables delivered on a whole-of-Country scale
- These German biogas fuelled cogeneration systems also co-deliver billions of kWh of thermal energy into the market in support of domestic, commercial and industrial applications. This supports the core energy efficiency principal of applying the most appropriate form of energy to any given task



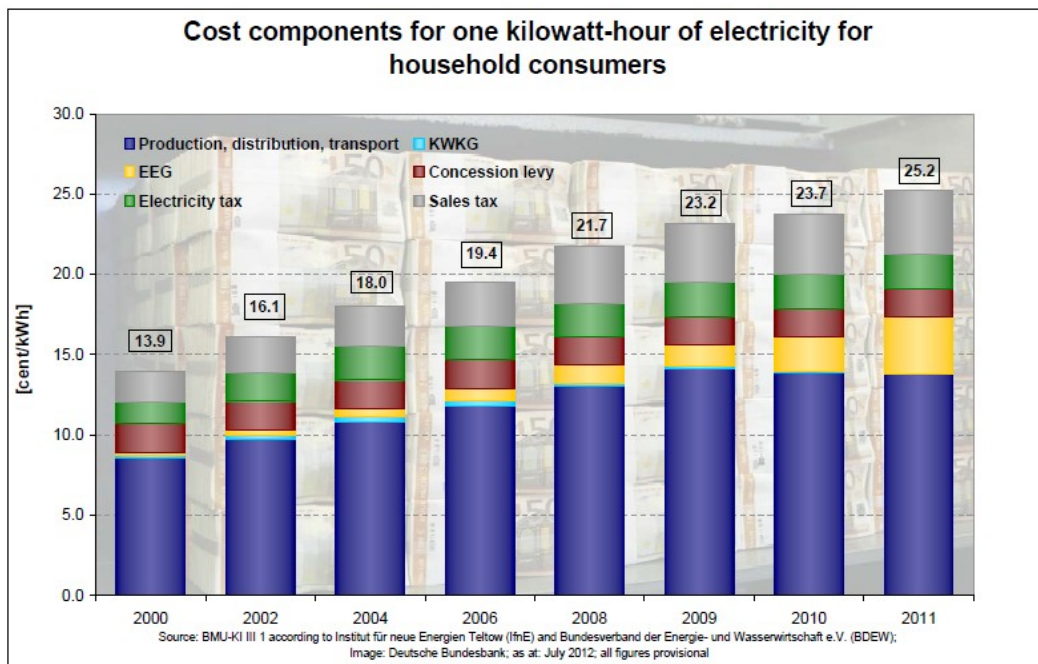
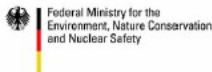
Biogas fuelled cogeneration: Baseload renewable electricity delivered on a whole of Country scale with simultaneously cogenerated thermal energy applied to the most appropriate tasks. This national scale system was delivered in little more than one decade

- Along with driving substantial increases in energy efficiency, these biogas fuelled cogeneration systems also reduce the pressure on electricity grids via their baseload generation capabilities coupled to their diffuse and decentralised deployment
- Within an expanded RET, or via a complementary system connected to the RET, financial incentives should be offered for the productive application of cogenerated renewable thermal energy for **heating and cooling**
- These financial incentives should be limited too:
 - thermal energy that has been simultaneously cogenerated along with electricity within a single cogen/trigen system,
 - where that system is fuelled by a renewable gas;
 - and where that renewable thermal energy is put to productive use in displacing fossil fuel-based energy
- One MWh of productively applied renewable thermal energy that offsets a one MWh of fossil fuel-derived thermal energy ought to be rewarded with an LGC equivalent reward

7: Moving to a broad based Feed in Tariff (FiT) system

- It's politically unlikely that a broad based FiT system can be implemented into Australia at this time: but ultimately this is what we must embrace and implement
- Not a single significant renewable energy market/industry globally has been created without a broad based FiT system to underpin it
- Having been employed directly within the German renewable energy sector for over three-and-a-half years, I have gained an insight into the power of a well-structured and broad-based FiT in driving the creation of a broad and dynamic renewable energy sector
- The next two graphs emphasise this fact. This first graph reveals a number of important facts:
 - the cost of the EEG (the FiT represented by the yellow band) has never been more than €0.03592/kWh
 - in 2011 record amounts of renewables were fed into the German grid. Despite this, the cost of 'production distribution and transport' (the blue band) **came down** for the first time since the FiT was implemented
 - this is the **inevitable reward** for taking the long-term strategic view to support a renewable energy sector through a broad based FiT

- Now this dynamic and mature renewable energy powerhouse has reached a **significant tipping point**

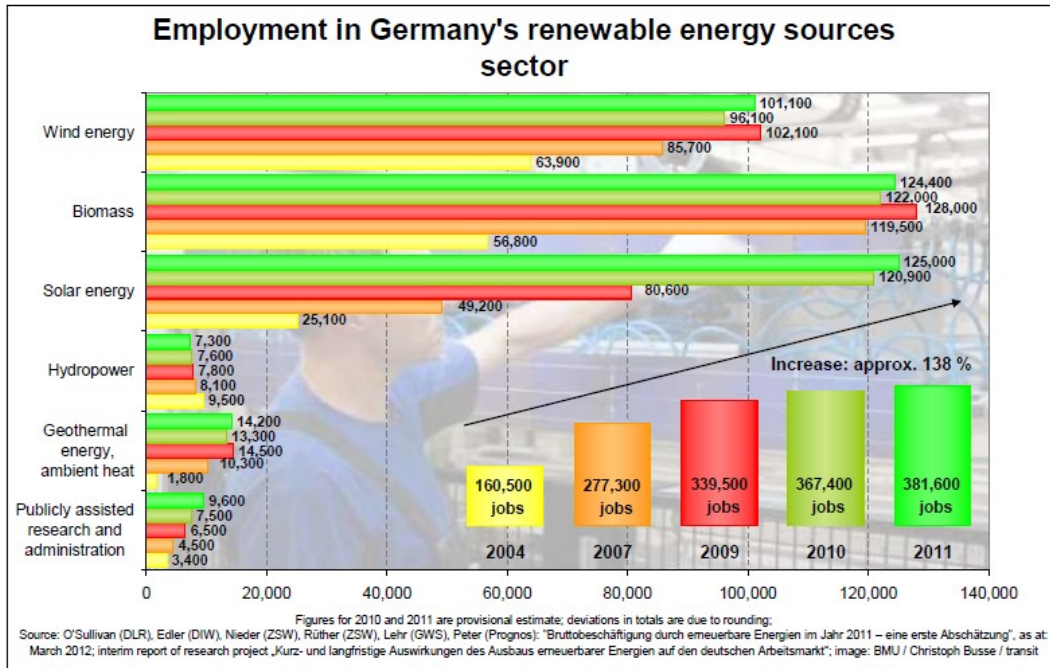
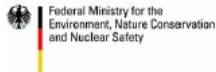


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Development of renewable energy sources in Germany in 2011

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- The second graph on the following page looks at the employment outcomes delivered via taking the long-term and strategic view to support a renewable energy sector through a broad based FiT. The outcomes speak for themselves



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Development of renewable energy sources in Germany in 2011

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Australia

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<http://www.mt-energie.com/au.html>

