

# Response to OFGEM Open Letter: Charging arrangements for embedded generation.

## Dated 29 July 2016

---

### Farm Energy Centre (FEC)

FEC is an energy consultancy operating mostly (but not exclusively) in the agricultural and horticultural industries.

Our specific interest/involvement in this instance relates primarily to Embedded Generation (EG) in the form of natural gas fueled Combined Heat and Power (CHP) plant installed on commercial greenhouse sites in the UK. We have clients who operate Anaerobic Digesters who are similarly affected.

We provide a range of services to these clients including, but not exclusively, energy contract negotiation, feasibility studies, run regime advice and energy compliance such as EUETS. We currently provide support to circa. 80MW<sub>e</sub> of natural gas CHP.

FEC has close links with the National Farmers Union and provides the 'NFU Energy Service' on their behalf.

### Our clients

Our clients in this instance are typically:

- Owner-operator / family businesses
- Small to Medium Enterprises
- Their core business is not electricity generation
- Energy can represent >30% of their operating cost
- The majority of the electricity generated is exported to the grid
  - The production of low cost, low carbon heat is the primary driver
- Generation capacity <20MW on any single site

### Overview

At a simplistic level we understand what appear to be main reasons for this review:

- EG benefits from TRIAD income that larger generators do not. This:
  - Places larger generators at a competitive disadvantage
  - Places higher costs on consumers
- The current system in effect encourages the development of smaller, less efficient EG
  - At the expense of larger more efficient generation

### Current proposals

- CMP264 (Scottish Power)
  - Stop any new EG connecting after June 2017 from getting TRIAD income
- CMP265 (EDF Energy)
  - EG should be allowed Capacity Market or TRIAD income but not both
- Within the OFGEM Open Letter under transitional arrangements
  - Grandfathering for a subset of users

No doubt other proposals/ideas will evolve over time.

### Impact on our clients

The impact will without doubt be significant. TRIAD income is a key part of the financial viability of these installations. Without it, it is likely that:

1. Older plant will be shut down as soon as major repairs are required
2. New plant (already committed to / running) will produce an operating margin.
  - a. But it may be insufficient to service capital repayments
3. New projects
  - a. Will not go ahead. We already have one 8MW project that was at an advanced stage of development that has been 'paused' as a result of this announcement and awaits the conclusion

Points 1 and 3 will result in less generation that can deliver at key times of the day and at short notice. This could serve to exaggerate price spikes at such times rather than reduce costs to consumers.

### Our reaction / response

#### *Environmental*

The environmental argument for larger power stations is fundamentally flawed when considering CHP. Even old (less efficient) CHP has a total thermal efficiency of 70% and modern CHP can be as high as 90%. This compares with the best modern power station that would struggle to be any more than 45%.

When we consider the CO<sub>2</sub> savings that natural gas CHP deliver with the fiscal support they receive (minimal) and the FiT, ROCs and RHI for renewables. Natural gas CHP gets virtually nothing in recognition of its contribution to CO<sub>2</sub> savings. To remove TRIAD income without recognizing, by some other financial means, the environmental benefit of the CO<sub>2</sub> savings provided would negatively affect the government's climate change ambitions.

Natural gas fueled CHP, the vast majority of which is EG can:

- Make a significant contribution to CO<sub>2</sub> savings
- Deliver reliable, on demand electricity and grid support services such as STOR.
  - These are key to enabling increased use of less predictable renewable generation (PV and wind) whilst helping to ensure that the 'lights' do not go out

#### *Behind the meter installations*

OFGEM recognize that removing the TRIAD income for EG that exports to the grid would leave EG that simply reduces a site's import kW during the TRIADs ('behind the meter') unaffected. This would result in a 'double standard' that at best is unfair and at worst is anticompetitive.

This could also result in the proliferation of private wire connections (covering some distance) between EG and high electricity users simply to ensure continued receipt of TRIAD income from behind the meter. Creating additional and unnecessary capital cost for projects, local disruption during construction and so on.

### Our suggestions

A selection of options come to mind:

1. A threshold limiting TRIAD payments to generation plant below a certain capacity. This would limit the 'distorting effect' that the larger generators suggest is occurring.
  - a. We suggest 20MW
  - b. Alternatively TRIAD income is simply capped to the first 20MW of electricity exported during a TRIAD
2. Paying TRIAD income based on total MWh exported during the whole of the key winter tea-time period
  - a. This would recognize the greater benefit delivered by generators who consistently deliver during what are high electricity cost times of day; thereby helping to keep prices down for customers.
3. The receipt of TRIAD income being conditional on a generation plant being deemed 'good quality' by CHPQA. This would address any environmental concerns, such plant also tends to run solidly during tea-time (see point 2 above)
  - a. So a CHPQA Quality Index >100

Points 1 & 3 would utilize an existing verification scheme (CHPQA) so place little additional regulatory burden on any party involved. Point 3 would use existing metering / billing information.

### **Remaining concerns & comments**

Whatever happens, the removal of TRIAD income from existing EG and new build projects that are at a high level of development is not acceptable. Investment in EG is a long term commitment, changes of the magnitude proposed will further erode investor confidence in the energy sector at a time when investment in quick to build, predictable, fast response electricity generation is required. Even CMP264 does not give sufficient time for projects at a high stage of development to commission. 18 months from the date a decision is made should be the minimum.

Probably my greatest concern is any remaining uncertainty. A decision not to implement any of the modifications suggested but to launch a significant code review (which could take years to complete) and then result in the loss of TRIAD income to EG would leave such long term would mean many EG projects will be abandoned and businesses / investors will look to invest in other areas. Leaving the UK electricity generation capacity in a more perilous state than it is currently.

The current EG TRIAD benefit system may not be perfect but it is certainly better than nothing at all.