energyspectrum
Energy perspectives

Down your way—the problem of how to stimulate distributed energy markets

First there was embedded generation, then distributed generation and now decentralised energy (DE). The nature of the discussion too has evolved from primarily a technical debate into a commercial one, and parliamentarians are even talking up the prospects of turning energy consumers into producers. Indeed, the issues surrounding local markets has possibly been the subject of as much literature and comment as nuclear power over the past 20 months or so since the current energy review was initiated. The rhetoric has grown in line with public expectations, and all major political parties now have frontline policies that envisage the active promotion of local energy markets. But another thing they share at this stage is a palpable lack of detail, and there is a good reason for this as we discuss in this *Energy perspective*.

Principle vs. practice

DE encompasses a wide range of technologies including CHP, micro-generation and renewables connected directly into the distribution grid, as well as demand side management incentives to encourage efficiency hence their importance in current policy debates. They are also multi-functional involving the generation, distribution and supply of energy to local customers. Clearly DE can offer reductions in carbon through reduced losses in transmission and distribution, using lower carbon generating technologies and delivering behavioural benefits. In addition, it can have beneficial impacts on other energy policy goals such as security of supply because of the local diversity it brings, fuel poverty in many applications embracing efficiency improvements in energy use and competition. But as the government has emphasised, despite these benefits, developments are not fully rewarded in the current market place, and distributed energy currently accounts for less than 10% of energy supply. In the absence of reinforcing measures it will remain in a weak position to access a centralised market place and sector dominated by large, vertically-integrated players with diverse portfolios that effectively control access to energy markets.

A joint Ofgem/ Berr *Review of distributed generation* issued with the white paper acknowledged that the playing field between centralised and decentralised generation was not level. It identified the key risks and barriers to increased take-up as follows:

- **cost—**DE technologies tend to have higher capital costs and the rewards for exporting excess electricity produced by distributed generators are seen as small and difficult to access. Developers are also being denied the full price of carbon in their commercial arrangements, with intermediaries capturing the benefits;
- **lack of reliable information—**there is a low awareness of technical and market options amongst potential users. Also, grants and financial incentives such as Rocs and Lecs are perceived as being hard to access; and
- **market and licensing arrangements—**limited credit and the cost associated with admission processes to trading present a significant barrier to accessing the wholesale market for smaller players. The lack of liquidity in the market and a poor market depth also pose serious threats and asymmetric risk to any participant that is not vertically-integrated. Consequently, most operators do not look beyond establishing a netting arrangement with a local supplier often on terms that fail to recognise market value.

This position of weakness within the wider market is compounded by:

- **transaction costs** and complexity through participating in the BSC. The cost of direct participation is also debilitating, starting at £150,000;
- **balancing risks,** which bite disproportionately because local generation and supply are not usually designed to match;
- **compliance requirements—**many intermediate-sized generation schemes are required to sign industry codes due to bilateral arrangements with National Grid that can permeate deep into the local network; and
- entry into the **supply market** is not realistic, again on grounds of cost and complexity, requiring registration of meters and involvement not only in the BSC but also the MRA. This position in turn reflects the reality that many distributed generators do not carry out the generation activity or heat supply as the primary licence business and do not wish to actively manage customer interfaces.

The government acknowledged in the white paper that it was important to determine the extent to which DE could offer an alternative to a centralised system and address barriers to greater take-up by removing the structural and cost distortions and informational barriers, thus better enabling it to compete "freely and effectively with larger-scale, centralised generation". A range of policies have already been adopted that aim to support deployment of DE technologies and drive down costs, including the implementation of the micro-generation strategy, the Low Carbon Buildings Programme and proposed changes to the planning regime. But more is clearly needed, and the key to unlocking the potential in no small measure depends on being able to create local markets that are explicitly different to the centralised market that scale players operate within and control.

Establishing a route-map

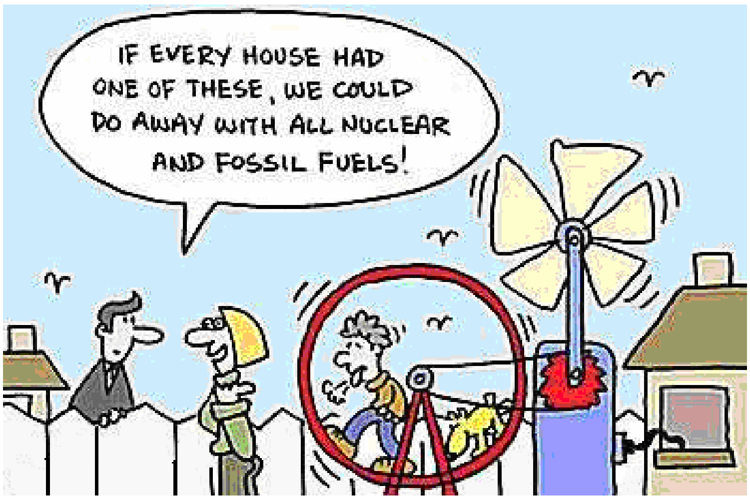
To address this issue the government and Ofgem have created a working group to look at whether introducing flexibility into the licensing and marketing arrangements could help. But it is early days as yet, and the group has only met three times since the white paper was issued in July 2007. Its basic task is to consult on possible ways forward during the autumn with a view to developing final proposals by the middle of next year. To date the process has tended to look at what we term intermediate-level production, a neglected band below the centralised market but above the micro-generation level that is subject to several other reform programmes and policy initiatives. To help bring a perspective to this problem and also provide some context, we produced a paper for the group at its September meeting. The five starting conclusions we reached, and which we believe must drive the debate, are summarised below.

First and foremost, all distributed generators require access to the market in the sense that they need to be able to sell their power at a fair price. The position of distributed generators (and niche suppliers) may well be enhanced by any future changes to imbalance cash-out that further reduce volatility and price pollution. And the introduction of any tolerance bands to mitigate the effects of cash-out exposure could reduce the cost of new entrant suppliers and generators by allowing them to trade outside the power exchanges and mitigate exposure to imbalance. But change of this nature with regard cannot be relied upon and tolerance issues raise cross-subsidy issues that so far have been rejected by the regulator.

Secondly, in most cases these central markets are likely to remain off-limits. It is neither logical nor commercially viable for most distributed generators to seek direct access to them. This situation should not come as a surprise because:

- the trading arrangements were developed for bulk trading in a national market;
- DE operators are in the main small and/or supply locally;
- selling into the central arrangements without contract and risk management back-up is not a realistic option, and the costs of trading as the government has acknowledged are anyway excessive for small players; and
- overall their position and options for DE are probably worse under Neta/Betta than under the Pool.

Thirdly access to retail markets also raises a different type of complexity and in most instances requires the operator to become a licensed supplier. The 5MW supply licence exemption limit that presently applies for off-site supply is significantly lower than the comparable threshold for generation. The limit for on-site supply—provided it is to non-domestics—is higher. But the threshold is probably not the critical issue as many if not most distributed operators would not wish to become energy suppliers in the conventional sense anyway for reasons we have already noted.



In recognition of these factors, and fourthly, the role of the consolidator has been created under Neta following complex rules changes. It is hard to see how this aspect of the BSC rules can be further flexed. Consequently, the scope for further organic development of consolidators under the current Neta framework looks limited. There are no obvious quick wins arising from further process modifications to the trading arrangements to significantly improve the position.

Finally, there is a need to regard these local markets as different or separate. The wider market and regulatory environment is (to quote the May report) distinctly "not user friendly for smaller participants." It imposes high fixed costs. This too should not come as a surprise—competitive electricity markets are complex and regulatory requirements must run deep because of the need to ensure appropriate consumer protection even where there is choice.

Possible ways forward

So fine-tuning the central trading arrangements in isolation is likely to result in little further scope for stimulating DE, and we must look elsewhere for solutions. The paper flags four broad types of arrangement that may offer the prospect of levelling the playing field. The emphasis in identifying these options is what might be feasible, and not necessarily what is desirable. The options identified are:

- **increased supply licence exemption limits**—this seems to be the easiest route. It would be possible to create an additional class of supply exemption, which effectively increases the scope for exempt supply off-site, especially if this is for the purposes of making a supply into the non-domestic market or perhaps to a related undertaking or local site or sites (especially where local authorities are involved). A comparison with the treatment of generation suggests a limit of 50MW (BSC threshold) or 100MW (effective generation licence threshold for most existing operators) could be investigated for certain types of off-site local supply, particularly if generation and supply were ordinarily matched. Thought would obviously be required as to how these quantities should be treated from the perspective of the central arrangements if generation and supply were not to broadly balance, and in the event back-up supplies were needed. The arrangement could be site or development specific, not tied to a company or organisation, to allow existing suppliers to form joint ventures with other agencies, including local authorities;
- **simplified or new type of supply licence**—this is the next most straight-forward change option assuming it is related to specific types of supply (and probably not including domestics). Much of the current boiler-plating in the licences would not be needed for non-domestic supply, and requirements to comply with codes could be downgraded or removed or possibly might be dischargeable through an agent who could be an existing signatory and who would report net volumes and deal with any residual settlement.

  In many respects the further carve-outs from the exemptions regime contemplated under the previous option could be attached instead to eligibility for this local supply licence. It might be possible or desirable to restrict eligibility to supply through certain meters or profile types or stipulate that the supply could only be made in conjunction with a generation exemption;
- **centralised purchasing role**—this approach would entail significant change to the central trading arrangements and active discrimination in favour of decentralised energy through establishing such a role within the BSC. It might necessitate establishment of a new trading party or agent role, who could register volumes and settle imbalances. Alternatively the role could be vested in the system operator or feasibly the local distributor. This is radical change and probably not at all attractive if there are other, less dramatic change options, and this approach would make the mistake of tinkering with the central trading arrangements to accommodate a separate market that is fundamentally different and needs to be treated as such. There could also be potential harm to the existing and future consolidators operating in this area, suggesting that some relatively low threshold would need to be applied to eligible counter-parties if this route were to be investigated; and
- **regional agents**—more complex than the licence route but simpler than the previous option. It could see a role created probably by GSP Group, and possibly following an auction. The agents would have an obligation to offer terms locally and could mitigate imbalance risk to the extent that net positions within the area do not balance. Licensed suppliers and consolidators would be the logical participants to pitch for the role, but distributors could also act as intermediaries as they do in other electricity markets internationally by offering and administering feed-in tariffs. If this degree of intervention were considered unpalatable. It might be possible to allow suppliers to exercise a similar function, but they would probably need regulatory requirements placed on them to offer purchase and top-up terms, publish tariffs and provide a route to market under regulated terms. Under either version, the arrangement could be facilitated by some form of virtual trading unit defined within the BSC that permitted netting, and it would need to be underpinned by a short-haul distribution tariff.

The options are not exclusive, and for instance elements of the relaxation of licences could be combined with the agency model we have mooted.

To many readers in the industry intervention and carve-outs along these lines may seem excessive. It should be clear that we too prefer a lighter touch. But three key points need to be borne in mind:

- the industry and our regulator have a clear commitment to allowing local energy to thrive;
- the central trading arrangements can and should not be subordinated to this end, but the different nature and drivers of these new local markets must be recognised and clear demarcations established so that the current trading arrangements do not—as they will in the absence of specific steps in the opposite direction—stifle them; and
- that said, the central trading arrangements cannot be ignored and definition of a clear interface will be an integral part of any solution.