

Good Morning

There is definitely a capacity problem looming which is one result of the unbundled industry structure.

Electricity is unique in that Production, Transport and Consumption is instantaneous and thus that the Rate of Production and Consumption (Power) must always be closely matched, while ensuring that the wires loadings (active and reactive) are secure and stable - steady state and fault.

As generation and supply are split, with only a timed energy trading mechanism between them, there is no direct incentive to provide enough Peak Generation Power to match Demand Power; build incentive is based on adequate wholesale energy sales. Also, the multi bi-lateral trading mechanisms will not facilitate efficient operation of generation which should be scheduled Nationally; this inefficiency has been wasting fuel and money and causing excess emissions.

The capacity market and getting NGET to use new instruments is 'sticking plaster'. NGET can of course already 'purchase' generation at the margin in short and long Market timescales to avoid perceived shortfalls in the Peak Generation and Demand match (short term and long run), but only of course if that Generation exists. Thus you are proposing new NGET Instruments on demand; although that subsumes what the Market should be doing...

So, in order to engage the demand side within the Market framework we need to use the existing time based facilities, namely the premises which already half hour metering. Most of these went in by 1994 for wholesale Settlement reconciliation and I believe they are at 110000 locations and cover half the demand. If we can get the suppliers to apply simple Time based tariff structures to enough of these premises (Peak/Plateau/Trough, different Weekday/Weekend, changing Summer/Winter) then we should be able to bring our 'sharp' Winter Peak down to the plateau level and improve our margins. We could also go for Critical Peak Pricing as a supplier side instrument. These methods have been the most successful Smart mechanisms in the States, although their utility structures are 'multiple vertically integrated' and thus the incentive is there (from Retail supply to Generation ) to maintain sufficient plant.

Such period base tariffs would also encourage the running of controllable embedded generation at the best times. With thermal storage added, C(C)HP would appear more attractive. It seems ludicrous that our distributed generation simply gets 'flat rate' Power Purchase agreements.

The simple period based price structures can be driven from the hhr based Wholesale market purchase and by extending the through charging of DUoS, TNUoS and BSUoS to reflect the 'time' element of those charges. The sticking point will probably be supplier incentive as their large billing systems may have problems with modification.

Best Regards

Steve Browning

Electricity Efficiency - APL 3454

[www.eleceffic.com](http://www.eleceffic.com)

Retired, but still being a nuisance and open to contracts Ex CEGB and National Grid UK GB Electricity Operations - Generation, Demand, Fuel and Market

modelling Exec member - IET Professional Network - Engineering for a Sustainable future.  
Contributor to EU Smart Grids Technology Programme WG 2 - Network Operations

Tel Home +44 (0) 118 954 0082  
Mobile +44 (0) 783 664 5454  
Skype name stephenbrowning