

The implications of recent UK energy policy for the consumer: a report for the Consumers' Association

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Executive Summary

The Electricity Market Reform (EMR) - led by the Department of Energy and Climate Change (DECC) – is the most major reform of the power market since the restructuring and privatisation of the industry in the early 1990s. Particular concerns lie around the EMR's cost-effectiveness and impact on UK energy market structure.

The UK has signed up to the EU Renewable Energy Directive, which sets a target of 15% of final energy consumption from renewables by 2020. Electricity will play a significant role in meeting this target, and 30-40% of the UK's electricity will need to be produced from renewables by 2020. Currently renewable energy supplies only 3% of the UK's total energy needs and the share of renewables in electricity was 7.3% in 2010. Following the 2008 Climate Change Act, the UK has a very challenging target for decarbonisation of its economy: by 2050 UK emissions of greenhouse gases should be 80% lower than in 1990. It is estimated that to meet its indicative 2030 carbon reduction target and put the UK on the path to 2050, electricity generation would need to be substantially decarbonised during the 2020s – reaching 100gCO₂/kWh in 2030 from 500gCO₂/kWh today. The EMR proposes the following package of policies to meet the targets for electricity in the UK: Contracts for Differences (CFD), Carbon Price Support at £30 in 2020 (CPS30), Emissions Performance Standards (EPS) and Targeted Capacity measures (TCM).

The baseline scenario used for comparison purposes by DECC (in analysis undertaken by Redpoint) does not represent “business as usual”. The baseline scenario assumes meeting the UK's renewable energy targets using current policies, through adjusting Renewable Obligation Certificates (ROC) bands. In all scenarios modelled, the renewable electricity share is fixed at 29% in 2020. There is no analysis of a more realistic scenario projecting the current rate of progress with renewable electricity deployment. Current policy - under the Renewable Obligation (RO) - envisages a maximum of 15.4% of electricity from renewables in 2015-2016.

The DECC EMR Impact Assessment estimates the effect of various policy scenarios on consumer bills. While the aggregate electricity consumption is assumed to be mostly flat till 2030, household level consumption is assumed to decrease as a result of current government policies. The consumption in the average domestic bill is assumed to decrease by 10% from 2010 to 2030, equivalent to a 0.5% reduction p.a., but the demand is held constant across the scenarios modelled. The second-round effect of reduced electricity consumption from higher electricity prices is not taken into account. Without the assumption of reduced consumption due to efficiency measures, the increase in electricity bills would be even higher than modelled.

The EMR envisages household bills rising by 32% by 2030 and by 47% per unit of electricity on average. If richer consumers subsidize the poorest consumers, they will pay significantly more than this amount. The preferred package transfers significant amounts of money to the private sector and the government from consumers. However, residential consumers will be getting very little for the extra money they are paying out, but will be committed to a higher proportion of nuclear and renewable generation.

One of the key objectives of the EMR is the reduction of the cost of capital. This is achieved through the reduction in uncertainty for investors in low carbon generation. This leads to a lower cost of capital through lower hurdle rates for generation projects. The de-risking of

nuclear investments represents a big part of the source of EMR savings from CFDs. The hurdle rates for nuclear investment decrease by 2% under the CFD option. By 2030, the estimated new build for the CFD package is 9.6 GW, compared to 6.4 GW in the baseline. These savings are worth around £1.5bn on 9.6GW of nuclear investment.

Even if the costs of risk are reduced for investors, they do not disappear but are simply shifted to the government – and by extension to consumers. EMR commits consumers to a certain amount of nuclear and renewables regardless of world energy prices. Through a higher share of renewables, consumers may gain insurance against high gas prices, but they do not benefit as much if gas prices are low. Redpoint analysis for ENA (2010) suggests that there are credible scenarios where gas plays a more significant role in energy in the UK. In addition, EMR introduces new sources of risk arising from government failure. These risks arise from unclear governance of the EMR and the potential failure to set appropriate levels for CFD contracts and the amount of capacity tendered. These risks are ultimately borne by consumers.

The short term impact of the EMR on European carbon emissions is zero, given the existence of the EU Emissions Trading System. The long term impact depends on the extent to which the EMR bolsters or undermines EU emissions targets. From a game theoretic perspective, the EMR would seem to tie the UK's hands in future climate negotiations. This might well remove the UK as a credible player in determining the future of the EU ETS and European carbon policy more generally.

Two of the four elements of the EMR are redundant. The EPS performs no role in hitting any of the environmental targets and is costly. The premature introduction of a targeted capacity mechanism is also costly and at variance with best practice learning from the US. Both of these elements have negative net present value according to the government's own impact assessment of EMR policies.

An increase in electricity prices can have a disproportional impact on low-income households (DECC, 2010), as electricity constitutes a higher share of household monthly expenditure. The households in the lower expenditure decile are affected the most. In terms of increased share of overall expenditure, the hardest hit social group is that of single pensioners.

Ultimately, the costs imposed on consumers will be key in determining political support for the government's energy policy. Strong grass-roots political opposition can lead to policy U-turns. It is possible that policy developments in the heat market (e.g. the Renewable Heat Incentive) and in demand reduction (e.g. the Green Deal) may mitigate some of the aggregate household energy cost impact of EMR. However, good policies elsewhere should not be used to obscure the potentially serious impacts of the EMR on unit electricity costs.