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Dear Maxine

INTERNAL INCONSISTENCY IN OFGEM'S SENSE CHECK TO LCN FUND SAVINGS

On 4 September Ofgem shared a note of clarification regarding its methodology for the smart grids adjustment. A correction was then issued on 12 September.

Both versions of this note placed a significant amount of emphasis on the use of top-down evidence from LCN Fund bids to quantify the potential savings available from smart grids within the ED1 period. This evidence was mentioned only briefly in the draft determination document, and it was not mentioned at our cost team bilateral meeting on 29 August. However, it now appears that Ofgem is placing significant emphasis on this evidence.

For the purposes of this particular letter, we shall briefly put to one side any potential issues with Ofgem's calculation of the potential savings in the ED1 period from the LCN Fund bids. That important validation remains outstanding and cannot be done until Ofgem shares the details of its working with stakeholders. I have therefore also written to Dora Guzeleva with specific questions regarding Ofgem's calculations. But that work notwithstanding, we have been reflecting on the high-level numbers and want to highlight to you what we believe to be a significant internal inconsistency in Ofgem's top-down calculations which render them manifestly implausible.

Ofgem claims that £2bn of savings in the ED1 period can be quantified from LCN Fund bids. In arriving at this figure, Ofgem has assumed that the individual projects have a high likelihood of delivering these potential benefits in full: *'LCNF Tier 2 projects are intended to trial high TRL solutions. We therefore expect the majority of the projects to succeed and for the trialled solution to be shown to be suitable for national roll-out'*.¹ Once benefits accruing to other parties (e.g. connectees) are netted off, the residual saving to the DNO cost base is half this level, at £1bn.

Consequently, Ofgem's position is that DNOs are being expected to realise £1bn (in real terms) in cost reductions accruing directly to their cost base *after* benefits to other parties and a minority of unsuccessful projects have been netted off, for a stated investment of £450m.

Assuming that the costs of the projects fall equally across the six years stated by Ofgem, that the benefits then fall equally across the ED1 period, and that only the £1bn in benefits assumed

¹ Source: Ofgem, 12 September 2014, Clarification of methodology for smart grids adjustment, page 1.

to accrue to DNOs could be captured, we calculate that the internal rate of return (IRR) on the projects would have been 15% (real, pre-tax), or 19% if benefits are assumed to continue at the same rate in the ED2 period. Including the benefits to connectees assumed by Ofgem at a level of up to an additional £1bn would increase this IRR to over 30%. And if we limit the costs associated with these benefits to Tier 2 LCN Fund awards plus bids to date, of £227m, the IRR rises as high as 49%.

Even at the lowest end of this range, 15%, these returns are too high to be plausible, and result directly from Ofgem's certainty that the majority of projects will be successful. In our view, there is absolutely no basis for Ofgem's certainty. If the DNOs and the investment community shared Ofgem's certainty, then the need for the LCN Fund would be redundant in the first place.

By participating in the LCN Fund DNOs and their commercial partners effectively had to commit to giving up the intellectual property associated with the project (unless specific carve outs were granted on a case by case basis). Had these projects instead been taken forwards on a commercial basis, this intellectual property (including any commercial or marketing advantage) need not have been given up. Such intellectual property rights would have allowed the holders to capture a significant part of the benefits accruing to all parties, not just DNOs. If returns were as high and certain as Ofgem now suggests in its ED1 draft proposals then projects would have taken place outside the fund in order to preserve their intellectual property rights in full. And if this were the case, there would never have been any need for the LCN Fund, and the rationale that Ofgem used to justify the creation of the fund would be seriously flawed. Indeed, Ofgem recognised in its DPCR5 final proposals that it needed to put the fund in place *'to incentivise the DNOs to undertake what are higher risk projects than their 'business as usual' activities'*.²

Quite simply, DNOs and investors do not share Ofgem's certainty about future benefits. And, in setting up the LCNF in the first place neither, clearly, did Ofgem. As a consequence the certainty Ofgem has in assuming the success rate of the projects in generating a net benefit of £1bn is inconsistent with any reasonable estimate of a rate of return in the type of low-risk activity that Ofgem has assumed these projects are, with the views and sentiments of investors, and with its own established policy.

It therefore seems difficult to imagine a scenario in which Ofgem's £1bn claim can be correct. Either the returns are far less certain than Ofgem has claimed (and so the £1bn should in fact be discounted further to reflect the risks of projects not delivering the claimed benefits); the true benefits expected by DNOs and their commercial partners in LCN Fund projects were lower than stated in the bids (or at least the ED1 period returns are lower than Ofgem has claimed); or Ofgem has under-estimated the time it will take for them to deliver these benefits.

We have tested what benefits could be expected in the ED1 period, or the ED1 and ED2 period, based on paying back a £450m investment along with what would be a reasonable rate of return on the type of safe investment which Ofgem has assumed these projects are (using the electricity distribution cost of capital as our benchmark). Our analysis indicates a range of between £340m and an absolute upper limit of £620m on the benefits that could flow from the LCN fund projects in the ED1 period. The upper end of the range is only £220m higher than the £400m in benefits Ofgem had identified in the DNO business plans prior to publication of the draft determination, rather than the £400m in additional savings that Ofgem suggested should be found. At £620m in total savings customers would be getting a reasonable return on their LCN Fund investment and quick payback - a payback rate far in excess of that which network companies enjoy.

² DPCR5 Final proposals, incentives and obligations document, page 11, paragraph 1.49

I am sure it is not lost on you that the low end of the range we have estimated, £340m, is actually below the level of smart grid benefits that Ofgem says have been factored into DNO plans. This level of benefits would need to be sustained over the course of the ED2 period in order that customers would have received a reasonable rate of return on their LCN Fund investment. But this assumption seems entirely reasonable.

Of course, if take-up levels of low carbon technology turn out to be higher in the ED1 period, then the benefits in terms of cost reductions (to both DNOs and connectees) of smart grid technologies will be higher. But this would be in the context of an overall higher network cost, both to DNOs and those connectees. In other words, smart grid technologies and LCN fund learnings may help to mitigate the risk DNOs (and customers) are carrying in the ED1 period, but DNOs would still need to deliver these savings effectively, and they would not in any case reduce costs relative to business plan baselines. They would instead reduce the additional costs which have already been excluded from the slow-track DNO plans thanks to the risk-accepting assumption of modest levels of low-carbon technology take-up.

I hope that you find these comments to be helpful. They highlight that the top-down frame of reference you have used actually demonstrates a likelihood of material error in some of your calculations (either your quantification of benefits, or scaling back for likely failure). If Ofgem's assumptions were correct, the guaranteed rate of return on the LCN Fund investment would be implausibly high. In reality, projects are likely to have had a much higher probability of failure, or would only realise benefits at the claimed level if there were high and widespread levels of low carbon technology take-up. This same top-down frame of reference actually indicates that the 'bottom up' calculations have arrived at significantly too high a benefits figure. This finding is supported by the fact that slow-track DNO business plans generally assume relatively modest, and therefore risk-accepting, levels of low carbon technology take up and clustering.

It is essential that you revisit your calculations to identify where errors may have been made, and also make all your calculations transparently available so that the consultation process can be effective. I am also writing to Dora Guzeleva under separate cover requesting answers to specific questions on how the £1bn in innovation benefits via Ofgem's 'top down' method has been calculated.

Yours sincerely

A handwritten signature in black ink that reads "John France". The signature is written in a cursive, slightly stylized font.

John France
Regulation director