

KEY

Method	Method name
Method 1	Facilitating GSP operation as BMU

Electricity NIC – financial benefits

Financial benefit (£m)								
Scale	Method	Method Cost	Base Case Cost	Benefit			Notes	Cross-references
				2020	2030	2050		
Post-trial solution <i>(individual deployment)</i>	Method 1	0.84	6.84	15.7	59.4	196.3	<p>The benefits are quantified from: [1].Saving in constraint balancing costs [2].Curtailment mitigation through active outage management and distribution balancing services</p> <p>2020 benefits consists of: [1].£0.819m per annum [2].£2.231m per annum</p> <p>2030 benefits consists of: [1].£4.676m per annum (Low Carbon Life growth scenario) [2].£2.231m per annum</p> <p>2050 benefits consists of: [1].£4.613m per annum (Low Carbon Life growth scenario) [2].£2.231m per annum</p> <p>In each case what is presented is in terms of cumulative financial benefit.</p> <p>Benefits for [1] are based upon the 7% reduction in balancing costs due to one GSP being utilised as a Balancing Unit. It is expected that this is towards the higher range of benefit and these benefits can be expected to reduce by 50% (i.e. 3.5% reduction in balancing costs) in more conservative cases.</p> <p>This benefit does not include difference between Method Cost and Base Case Cost that is stated in Submission Spreadsheet.</p>	<p>The underlying assumptions were calculated in the following sections of Appendix B:</p> <p>2020: [1].Section 1.1.1; Page 5 [2].Section 1.3.1; Page 7</p> <p>2030: [1].Section 1.1.1; Page 5 [2].Section 1.3.1; Page 7</p> <p>2050: [1].Section 1.1.1; Page 5 [2].Section 1.3.1; Page 7</p>
Licensee scale	Method 1	5.5	6.84	176.4	882.3	2,740	<p>The benefits are quantified from: [1].Saving in constraint balancing costs [2].Curtailment mitigation through active outage management and distribution balancing services (15 GSPs)</p> <p>2020 benefits consists of: [1].£1.638m per annum [2].£33.465m per annum (15 GSPs)</p>	<p>The underlying assumptions were calculated in the following sections of Appendix B:</p> <p>2020: [1].Section 1.1.1; Page 5 [2].Section 1.3.1; Page 7</p>

							<p>2030 benefits consists of: [1]. £9.35m per annum (Low Carbon Life growth scenario) [2]. £66.3m per annum (30 GSPs)</p> <p>2050 benefits consists of: [1]. £9.23m per annum (Low Carbon Life growth scenario) [2]. £83.66m per annum (38 GSPs)</p> <p>In each case what is presented is in terms of cumulative financial benefit.</p> <p>Benefits for [1] are based upon an estimate of 15% reduction in balancing costs due to 15 GSPs being utilised as a Balancing Unit. This is an approximation and it is possible that these benefits can be expected to reduce or increase by 50% (i.e. 7% increase/decrease in balancing costs).</p>	<p>2030: [1]. Section 1.1.1; Page 5 [2]. Section 1.3.1; Page 8</p> <p>2050: [1]. Section 1.1.1; Page 5 [2]. Section 1.3.1; Page 8</p>
GB rollout scale	Method 1	71.5	6.84	21,265.2	106,336.8	319145.1	<p>The benefits are quantified from: [1]. Saving in constraint balancing costs [2]. Curtailment mitigation through active outage management and distribution balancing services</p> <p>2020 benefits consists of: [1]. £3.8m per annum [2]. £4,250m per annum (127 GSPs)</p> <p>2030 benefits consists of: [1]. £15.62m per annum (Low Carbon Life growth scenario) [2]. £8,500m per annum (263 GSPs)</p> <p>2050 benefits consists of: [1]. £15,41m per annum (Low Carbon Life growth scenario) [2]. £10,625m per annum (328 GSPs)</p> <p>In each case what is presented is in terms of cumulative financial benefit.</p> <p>Benefits for [1] are based upon the 7% reduction in balancing costs due GSPs being utilised as a Balancing Unit across the UK. It is expected that this is a conservative estimate and these benefits may increase by up to 100% (i.e. reflecting up to a 14% reduction in balancing costs) in more optimistic cases.</p>	<p>The underlying assumptions were calculated in the following sections of Appendix B:</p> <p>2020: [1]. Section 1.1.1; Page 5 [2]. Section 1.3.1; Page 7</p> <p>2030: [1]. Section 1.1.1; Page 5 [2]. Section 1.3.1; Page 8</p> <p>2050: [1]. Section 1.1.1; Page 5 [2]. Section 1.3.1; Page 8</p>

							The method cost has been derived as a scaled value assuming licensee-scale costs rolled-out across all 13 GB distribution license areas.	
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Electricity NIC – carbon and/or environmental benefits

Capacity released and/ or environmental benefit (MWh)								
Scale	Method	Method Cost	Base Case Cost	2020	2030	2050	Notes	Cross-references
Post-trial solution <i>(individual deployment)</i>	Method 1	£0.84m	£6.84m	139,435	418,305	976,045	<p>No associated MWh method or base-case cost.</p> <p>The benefits are quantified as approximations of the additional MWh renewable energy production enabled through curtailment mitigation via active outage management and distribution balancing services at a single GSP.</p> <p>2020: 27,887 MWh per annum</p> <p>2030: 27,887 MWh per annum</p> <p>2050: 27,887 MWh per annum</p> <p>In each case what is presented is in terms of cumulative additional MWh low-carbon energy produced.</p>	<p>The underlying assumptions were calculated in the following sections of Appendix B:</p> <p>2020: Section 1.3.1; Page 7</p> <p>2030: Section 1.3.1; Page 7</p> <p>2050: Section 1.3.1; Page 7</p>
Licensee scale <i>If applicable, indicate the number of relevant sites on the Licensees' network.</i>	Method 1	£5.5m	£6.84m	2,091,525	10,457,625	31,377,625	<p>No associated MWh method or base-case cost.</p> <p>The benefits are quantified as approximations of the additional MWh renewable energy production enabled through curtailment mitigation via active outage management and distribution balancing services.</p> <p>2020: 418,305 MWh per annum (15 GSPs)</p> <p>2030: 836,610 MWh per annum (30 GSPs)</p> <p>2050: 1,046,000 MWh per annum (38 GSPs)</p>	<p>The underlying assumptions were calculated in the following sections of Appendix B:</p> <p>2020: Section 1.3.1; Page 7</p> <p>2030: Section 1.3.1; Page 8</p> <p>2050: Section 1.3.1; Page 8</p>

							In each case what is presented is in terms of cumulative additional MWh low-carbon energy produced.	
GB rollout scale <i>If applicable, indicate the number of relevant sites on the GB network.</i>	Method 1	£71.5m	£6.84m	2,656,250	13,281,250	39,843,250	<p>No associated MWh method or base-case cost.</p> <p>The benefits are quantified as approximations of the additional MWh renewable energy production enabled through curtailment mitigation via active outage management and distribution balancing services.</p> <p>2020: 531,250 MWh per annum (127 GSPs)</p> <p>2030: 1,062,500 MWh per annum (263 GSPs)</p> <p>2050: 1,328,100 MWh per annum (328 GSPs)</p> <p>In each case what is presented is in terms of cumulative additional MWh low-carbon energy produced.</p>	<p>The underlying assumptions were calculated in the following sections of Appendix B:</p> <p>2020: Section 1.3.1; Page 7</p> <p>2030: Section 1.3.1; Page 8</p> <p>2050: Section 1.3.1; Page 8</p>
<i>If applicable, indicate any carbon and/or environmental benefits which cannot be expressed as kVA or kWh.</i>	Post-trial solution: [Explain any carbon and/ or environmental benefits which cannot be expressed as kVA or kWh] Licensee scale: [Explain any carbon and/ or environmental benefits which cannot be expressed as capacity or kVA or kWh] GB rollout scale: [Explain any carbon and/ or environmental benefits which cannot be expressed as kVA or kWh]							