

<b>Title:</b> Granting a time-limited exemption to a generation licence  <b>IA No:</b> DECC0086  <b>Lead department or agency:</b> Department of Energy and Climate Change (DECC)  <b>Other departments or agencies:</b> N/A	<b>Impact Assessment (IA)</b>		
	<b>Date:</b> 24/05/2012		
	<b>Stage:</b> Consultation		
	<b>Source of intervention:</b> Domestic		
	<b>Type of measure:</b> Other		
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<b>Summary: Intervention and Options</b>	<b>RPC: GREEN</b>
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Cost of Preferred (or more likely) Option				
Total Net Present Value	Business Net Present Value	Net cost to business per year (EANCB in 2009 prices)	In scope of One-In, One-Out?	Measure qualifies as
£0m	£0m	£0m	Yes	Zero Net Cost

**What is the problem under consideration? Why is government intervention necessary?**  
 Lynemouth power station is currently operated by Alcan Aluminium UK Ltd (AAUK) with a class D licence exemption, which gives it a competitive advantage relative to other generators. This licence exemption will not apply to any new owner. Negotiations are underway with Curen Ltd, a subsidiary of RWE, over the purchase of the power station. Curen are seeking a time-limited generation licence exemption until 31<sup>st</sup> March 2015 to allow them to bring the plant up to the standard necessary for a licence. Lynemouth cannot be operated legally without a licence or an exemption and Curen believe that the costs of bringing Lynemouth to a standard that would enable it to be licensed at this stage are prohibitive. The requirement of a licence to operate Lynemouth for any new owner, right from the point of acquisition, arguably presents a barrier to its sale, and its potential future operation as a licensed plant, in fair competition with other generators. Only the Secretary of State can grant exemptions from generation licences.


**What are the policy objectives and the intended effects?**  
 Licences are an important requirement for electricity generators as they allow National Grid to fulfil its function of managing the electricity system as a whole. The overall policy objective is to ensure that Government achieves its decarbonisation and security of supply objectives at least cost, while ensuring fair competition between generators and efficient operation of the electricity system.

**What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)**  
 A range of options were considered. The main options were  
 1. Do nothing. Under this option, Curen would need to obtain a licence agreement to generate. This would necessitate bringing Lynemouth up to a standard that would enable it to be licensed. If an exemption is not granted we expect the sale might fall through and the power station to eventually close.  
 2. Granting a time-limited licence exemption. Under this option the Secretary of State grants a time-limited exemption towards full-licencing by April 2015. The effect will be to eventually bring Lynemouth under the normal regulatory scrutiny within 3 years.  
 3. Granting a full licence exemption.  
 Option 2 is currently our preferred option. We believe this would increase the likelihood of Lynemouth staying open in the future, avoiding potentially substantial future capital costs of building new generation capacity. There could be a short-term distortion to competition, but we believe this would be limited. The impacts are, however, uncertain. We will seek to update our assessment in light of any consultation responses received. Option 3 introduces the risk of a longer-term distortion to competition, and so is not currently preferred.

**Will the policy be reviewed?** It will not be reviewed. **If applicable, set review date:** Month / Year

Does implementation go beyond minimum EU requirements?			N/A			
Are any of these organisations in scope? If Micros not exempted set out reason in Evidence Base.		<b>Micro No</b>	<b>&lt; 20 No</b>	<b>Small No</b>	<b>Medium No</b>	<b>Large Yes</b>
What is the CO2 equivalent change in greenhouse gas emissions? (Million tonnes CO2 equivalent)			<b>Traded:</b> N/A		<b>Non-traded:</b> N/A	

***I have read the Impact Assessment and I am satisfied that, given the available evidence, it represents a reasonable view of the likely costs, benefits and impact of the leading options.***

Signed by the responsible Minister:  Date: 11/7/2012

# Summary: Analysis & Evidence

# Policy Option 2

**Description:** Granting a time-limited exemption to a generation licence.

## FULL ECONOMIC ASSESSMENT

Price Base Year 2012	PV Base Year 2012	Time Period Years 18	Net Benefit (Present Value (PV)) (£m)		
			Low: -6	High: 77	Best Estimate: 0

COSTS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	0	0	0
High	0	2	6
Best Estimate	0	0	0

### Description and scale of key monetised costs by 'main affected groups'

Depending on the counterfactual, possibility of higher resource costs of generation in the period to 2015, due to Lynemouth's licence exemption making it exempt from certain licence compliance charges, valued at £6m (PV).

### Other key non-monetised costs by 'main affected groups'

Increased likelihood of additional costs associated with balancing the electricity system, the total of which is valued at £4m-£22m (PV). The probability of these occurring is unknown.

Depending on the counterfactual, possibility of inefficient investment signals due to exemption from certain licence compliance charges.

BENEFITS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	0	0	0
High	0	28	77
Best Estimate	0	0	0

### Description and scale of key monetised benefits by 'main affected groups'

Depending on the counterfactual, possible saving in resource costs of generating in the period to 2015, due to option of generating more cheaply from Lynemouth, valued at £77m.

### Other key non-monetised benefits by 'main affected groups'

Increased likelihood of savings in costs associated with meeting the Government's renewables targets. The total saving is valued at £72m, but the increased probability is unknown.

### Key assumptions/sensitivities/risks

Discount rate (%) 3.5%

The precise costs and benefits of granting a time-limited licence exemption to Lynemouth are uncertain, and are sensitive to a range of factors, including the counterfactual used, fossil fuel and carbon prices, commercial decisions and policy decisions. By extension, coming to an overall NPV figure is difficult since we cannot estimate the probabilities of different scenarios occurring.

## BUSINESS ASSESSMENT (Option 2)

Direct impact on business (Equivalent Annual) £m:	In scope of OIOO?	Measure qualifies as
Costs: 0	Yes	Zero Net Cost
Benefits: 0		
Net: 0		

## Evidence Base (for summary sheets)

### **Background and Context**

This Impact Assessment (IA) considers the case for granting a licence exemption to a potential new owner of Lynemouth Power Station, a 420MW capacity coal power station in the North of England. Lynemouth currently benefits from a Class D licence exemption. This section provides background on:

- The nature of the Great Britain (GB) electricity market;
- Generation licences;
- Licence exemptions;
- Criteria determining whether an exemption should be given;
- The issue under consideration; and
- Whether considering the licence exemption might in any way set a precedent.

### ***The nature of the GB electricity market***

Electricity is produced by generators. Electricity flows to final consumers through the (high voltage) GB transmission network, and then through (low voltage) local distribution networks. Energy suppliers are the commercial interface between generators and the majority of consumers. Electricity is sold by generators in the wholesale market to suppliers, who then pass on their costs through bills to their domestic and business customers.

The wholesale market is divided into 30 minute periods for trading purposes; “normal” trading occurs until one hour prior to the start of each period – a point known as “gate closure”. After gate closure, electricity generators and purchasers may not trade any further with each other, but may trade with National Grid. National Grid is responsible for managing the wholesale electricity market to ensure supply equals demand.

A generator’s “dispatch” (i.e. generation) decisions are generally based on meeting its contracted position by generating its most profitable plant. Profits per unit of generation (i.e. MWh) will generally be equal to the electricity price, less the short run marginal cost (SRMC, i.e. the variable costs of generating, primarily fuel and carbon costs and also including licensing charges). Conceptually, the most expensive plant required to meet demand (the “marginal” plant) sets the electricity price.

### ***Generation Licences***

An electricity generation licence allows the holder to generate electricity. Licences are an important requirement for electricity generators as they allow National Grid to fulfil its function of managing the electricity system as a whole.

The standard generation licence stipulates a variety of requirements for holders to: make annual payments to the Authority to cover the costs of Competition Commission referrals; comply with the Grid Code (which covers both operational and balancing requirements); comply with the Distribution Code (where applicable); comply with the Fuel Security Code; comply with the Balancing and Settlement Code (BSC) and BSC Framework Agreement; comply with the Connection and Use of System Code (CUSC) and CUSC Framework Agreement; provide information as requested by the Authority (assuming the request is reasonable or helps Ofgem fulfil functions granted to it by legislation); comply with conditions around the publication of company accounts as stipulated in licence conditions 16, 16A, 16B; and to inform the Authority if they are due to close (or significantly reduce the output) of a generating station. It also forbids generation licence holders from the discriminatory sale of electricity or using the generation arm of the company to cross-subsidise other activities undertaken by the licence holder.

Generation licences are issued by Ofgem, while the Secretary of State has powers, subject to consultation, to grant exemptions from the requirement of a generation licence.

### ***Licence Exemptions***

Exemptions can apply to individual cases or can be on the basis of a class (type) of activity. DECC policy on exemptions was formalised with The Electricity (Class Exemptions from the Requirement for a Licence) Order 2001 (‘The Class Order’). This set down in legislation thresholds of electricity generated,

distributed and supplied under which exemption could be claimed. Broadly the Exemptions Order 2001 provides the following classes of exemptions for generation:<sup>1</sup>

- Class A(1) – provide less than 10 MW;
- Class A(2) – declared net capacity of less than 100MW with less than 50 MW being exported to the system;
- Class B - offshore;
- Class C - those connected at 30 September 2000 and not normally capable of exporting more than 100MW to the total system; and
- Class D – generators never subject to central dispatch.

There are currently around 30 stations exempt from a generation licence by virtue of individual exemption.

Lynemouth currently benefits from a Class D licence exemption. This applies to non licensed generators who provide electrical power from generating stations which were connected to the total system on 30th September 2000, provided that under the terms and conditions of their licenses granted under section 6(1)(a) of the Act they were not on that date required to submit those stations to central dispatch by the licensed transmitter.<sup>2</sup>

### ***Criteria determining whether an exemption should be given***

Each case should be determined on its own merits. However, general factors considered are:

- The generating plant is no more than 100 MW capacity
- The applicant does not hold a generation licence
- The generating plant has a connection agreement in place
- The impact of the station on the electricity system is not significant
- Ofgem has indicated that requiring the applicants to hold a licence would be disproportionate
- Views of interested parties

In considering applications for exemptions, the Secretary of State has regard to the views of Ofgem and National Grid. National Grid, in particular, will be able to give a view as to the likely impact of any generating station on the local electricity system.

### ***The issue under consideration***

Alcan Aluminium UK Ltd (AAUK) ceased smelting aluminium at the Lynemouth Smelter on the 29 March 2012. The neighbouring Lynemouth power station is currently operated by AAUK with a class D licence exemption. This plant used to provide on-site power supply to the smelter, and exported up to 250MW of electricity to the local distribution system during operation of the smelter. The licence exemption gives Lynemouth a competitive advantage relative to other generators in Great Britain, which is exacerbated since, now that the smelter has closed, the plant is able to export all of its generation to the local distribution system.

The licence exemption will not apply to any new owner. Negotiations are underway with Curen Ltd, a subsidiary, of RWE over the purchase of the power station and Curen are seeking a time-limited generation licence exemption. Lynemouth cannot be operated legally without a licence or an exemption and Curen believe that the costs of bringing Lynemouth to a standard that would enable it to be licensed at this stage are prohibitive, although they would intend on achieving the standards required for compliance by 2015.

Hence, the requirement for a licence to operate Lynemouth for any new owner, right from the point of acquisition, arguably presents a barrier to its sale, and its potential future operation as a licensed plant, in fair competition with other generators. The Secretary of State has powers, subject to consultation, to grant exemptions from the requirement for a generation licence.

With reference to the criteria above, Lynemouth's capacity is greater than 100MW, and National Grid believes that its operation (though not directly the decision to grant an exemption) could have an impact on the electricity system (see cost-benefit analysis below). RWE, of which Curen is a subsidiary (the

<sup>1</sup> <http://www.ofgem.gov.uk/Sustainability/Environment/Policy/SmallrGens/Legal/LicnceExmpt/Pages/LicnceExmpt.aspx>

<sup>2</sup> With central dispatch being the process by which the licensed transmitter scheduled and issued direct instructions to licensed generators for the dispatch of electrical power prior to 27th March 2001.

applicant for an exemption) does already hold a GB generation licence. We understand from RWE that Lynemouth could get a firm agreement to connect to the transmission network, but not until 2015. The case for exempting Curen from the requirement to hold a licence thus requires consideration on its own merits. We are consulting on the views of interested parties.

### ***Setting a precedent***

Lynemouth is unique in being the only conventional power station in GB that is not operated by a licensed generator and has never been subject to central dispatch by the system operator. While there may be other plant of a similar size to Lynemouth, with a potential for biomass conversion, whose owners would welcome a licence exemption, we believe no other plant fits the criteria of the Class D generation exemption. In considering a temporary licence exemption for RWE for Lynemouth, we do not consider, therefore, that we would be setting a precedent.

### **Policy Objective and Intended Effects**

The overall policy objective is to ensure that Government achieves its decarbonisation and security of supply objectives at least cost, while ensuring fair competition between generators and efficient operation of the electricity system.

### **Description of Options**

#### ***Option 1: do nothing***

Under this option, Curen would need to obtain a licence agreement to generate. If Curen purchased the plant, this would necessitate bringing Lynemouth up to a standard that would enable it to be licensed at this stage. Alternatively, AAUK could continue to operate the plant with a licence exemption.

#### ***Option 2: Granting a time-limited licence exemption***

Under this option, the Secretary of State would grant a time-limited exemption towards full-licencing by April 2015. This temporary exemption would enable Curen to start operating the station immediately on transfer of ownership whilst providing Curen with time to undertake the necessary technical works to comply with the conditions of a generation licence. The intended effect is to eventually bring Lynemouth under the normal regulatory scrutiny within 3 years.

This is currently our preferred option, and is considered in detail, at page 6.

#### ***Option 3: Granting a full exemption***

Under this option, the Secretary of State grants a full exemption to a generating licence. This would preserve the distortion of competition that effectively currently exists (due to Lynemouth's current licence exempt state) for as long as the plant stays open, with no time limits or expectation of a transition towards becoming licensed.

This option does not therefore meet the policy objective of ensuring fair competition. This creates a risk that price signals for operational and investment decisions are blunted in the long-term, leading to a possible misallocation of societal resources. This option is considered briefly, at page 11.

#### ***Option 4: Granting a generation licence with derogations from certain conditions***

Curen have discussed this option with National Grid and Ofgem. While good progress has been made, Curen believed that agreement could not be reached within timescales that will accommodate a successful purchase of Lynemouth. In addition, this option would still result in preservation of the distortion to competition that effectively currently exists, for as long as the plant stays open. For these reasons, this option is not considered in further detail in this IA.

### ***Summary and preferred option***

Option 2 is currently our preferred option. The precise costs and benefits of granting a time-limited licence exemption to Lynemouth are uncertain, and are sensitive to a range of factors, including the counterfactual used, fossil fuel and carbon prices, commercial decisions and policy decisions. By extension, coming to an overall NPV figure is difficult since we cannot estimate the probabilities of different scenarios occurring. In our consultation, we will be seeking views from interested parties on the

impacts of granting a temporary licence exemption. We will examine the responses received, and update our assessment of the costs and benefits, and the impact on competition, in light of any new evidence received during the consultation process.

However, it is currently our judgement that the potential downside to granting the licence exemption is sufficiently limited (both in terms of the potential to distort competition, with possible increased resource costs of generation, and in terms of additional balancing costs). On the other hand, the potential upside from Option 2, specifically the possible saving in resource costs of generating, valued at £77m, and the increased likelihood of savings in costs associated with meeting the Government’s renewables targets (discussed in further detail below), is relatively large in comparison.

Option 3 is not preferred. While the impacts of Option 3 might be similar to Option 2 in the short-run, Option 3 would introduce a risk of a much longer-term distortion to competition, when compared to Option 2, with potential negative consequences on the efficiency of operation of the system and on the efficiency of investment in generation.

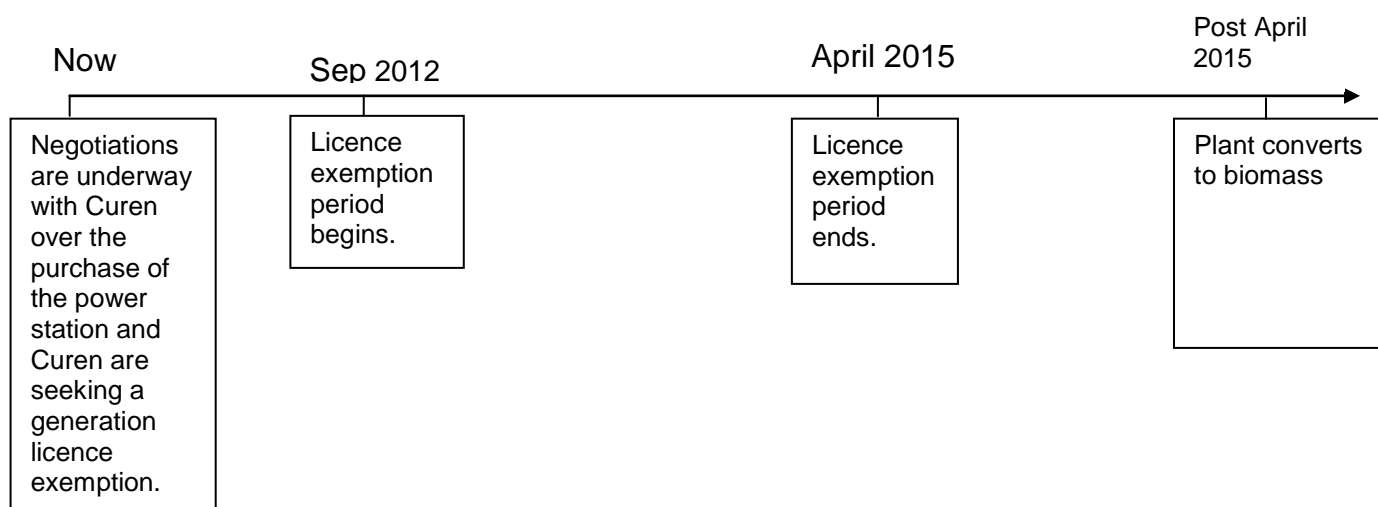
## Cost-benefit analysis – Option 2

### **Choice of central counterfactual and Option 2 central scenario**

The final outcomes under Option 1 (“do-nothing”) and Option 2 are uncertain, and are sensitive to a range of factors, including fossil fuel and carbon prices, commercial decisions and policy decisions. This gives rise to a wide range of possible scenarios.

In this section, for the sake of clarity, we first consider the costs and benefits under what we consider to be reasonable “central” scenarios. Alternative scenarios, and the potential impact on costs and benefits, are considered in the “Risks and Assumptions” section below. Our central scenarios under the two options under consideration are as follows:

- Option 1: As a result of not securing the generation licence exemption, Curen do not purchase Lynemouth. AAUK continue to operate the plant till the end of 2015 at the latest, by which time the increasing cost of environmental legislation results in its closure.
- Option 2: As a result of securing the temporary licence exemption, Curen acquire Lynemouth and take over responsibility for running the plant. Curen would complete the necessary works required to achieve the standards required for licensed generation by April 2015. Subject to clarification on renewables subsidies levels Curen are intending to convert Lynemouth to a dedicated biomass generator by 2014, but for the purposes of cost-benefit analysis, we assume that conversion takes place in 2015. In any case, it is Curen’s intention to apply for and from 1 April 2015 hold a generation licence, independent to and regardless of whether Curen decides to convert the station to dedicated biomass.



### **Impact on generation costs**

**Short-term (before 2015):** In the central scenario, Lynemouth’s short run marginal cost (SRMC) is unaffected in the period up to 2015 by Option 2, which means that generation patterns are also unaffected. This is because, under both Option 1 and Option 2, in the central scenario, the plant is

operated under a licence exemption up to 2015. This means there are no additional costs or resource costs savings associated with generation.

**Long-term (2015 and beyond):** The UK has a target to achieve 15% of its energy consumption from renewable sources by 2020, set by the 2009 Renewable Energy Directive. If Lynemouth converts to biomass, potentially more expensive renewable alternatives can be avoided. Compared to the potential cost of building an offshore wind farm – one of the more expensive forms of renewable electricity - a biomass conversion of Lynemouth would represent a saving to society of £72m (PV). However, we feel the entirety of this cannot be captured in the overall Net Present Value (NPV) for Option 2, since:

- While biomass conversion is one of the more cost-effective sources of renewable electricity generation, there is uncertainty over the cost of the most expensive technology required to meet the 2020 renewables target – offshore wind may not be the correct comparator; and
- The biomass conversion is not certain to go ahead, even if Curen is given the licence exemption.

The cost savings associated with meeting the Renewables Obligation would, in the first instance, be met by (retail) suppliers (i.e. business), and would eventually be passed through to consumers.

**Cost of building new generation capacity<sup>3</sup>**

£m	PV (2012 base year, 2012 prices)
Lifetime cost of Lynemouth biomass conversion in 2015	263
Lifetime cost of new offshore wind in 2015	335
<b>Difference</b>	<b>72</b>

**Balancing costs:** Lynemouth is situated above the north-east active transmission constraint boundary, and so, to the extent that Lynemouth runs more under Option 2 than it would have done under Option 1, there would be additional “constraint costs” to balancing the system<sup>4</sup>, i.e. the costs incurred by National Grid in trading with generators to ensure that system limits are not exceeded.

National Grid estimates these costs at £0.5-£3m per year. Assuming that future operation of Lynemouth as a biomass plant means these additional costs are incurred from 2015 to 2030 (the time horizon of our cost-benefit analysis), these could be in the region of £4m-£22m (PV). These costs would be borne by other generators and suppliers in the first instance, and ultimately by consumers. However, we feel the entirety of this cannot be captured in the overall NPV for Option 2, since:

- The biomass conversion is not certain to go ahead;

<sup>3</sup> For comparison purposes, new build and biomass conversion assumed to take place in 2015. Based on levelised cost data from ARUP. Capacity assumption of 300MW used.

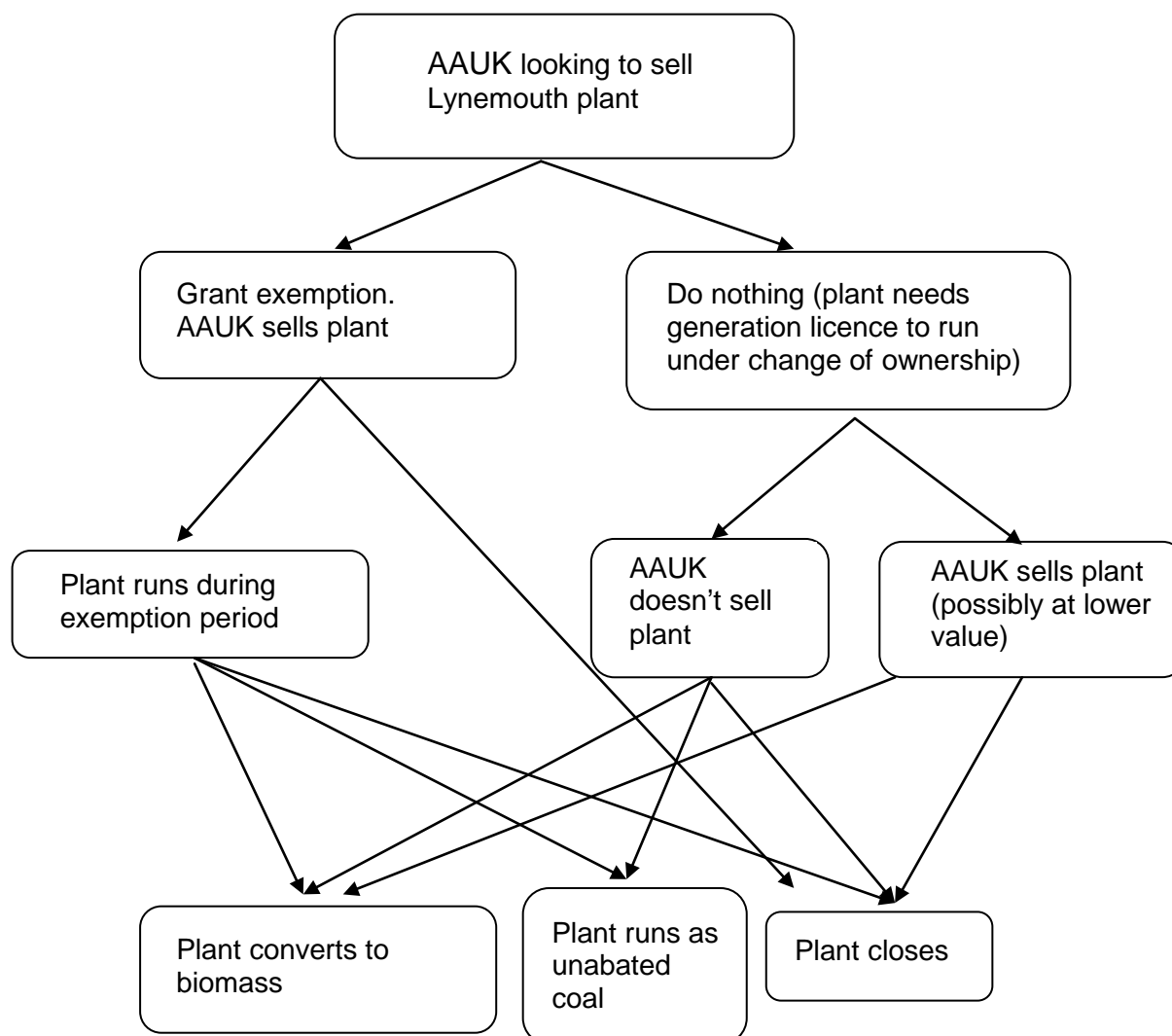
<sup>4</sup> The GB transmission system has a finite capacity to transmit electricity between any two locations, and has not been designed in order to meet every possible supply and demand scenario. If flows on the system are too high, parts of the network can overload leading to system insecurity. Where the capacity of the network between two locations is insufficient to transmit electricity from where it is produced to where the demand for it is situated, that is termed a “transmission constraint” (referred to in this paper as “constraints”). Constraints can arise due to thermal limitations on the system; the need to ensure pre- and post-fault voltage levels remain within prescribed limits, or to ensure the electrical ‘stability’ of the transmission system. Where generators’ plans would lead to these limits being exceeded, National Grid ensures balance by trading with generators on either side of the constraint, for example by reducing generation (or increasing demand) in an “export-constrained” zone, and increasing generation (or reducing demand) in the other zone. The costs that National Grid incurs from managing constraints on the network are subsequently charged to generators and suppliers in proportion to their share of the market across Great Britain (via Balancing Services Use of System, or “BSUoS”, charges), effectively resulting in a “socialised” charge which is ultimately paid by all consumers. These charges are known as “constraint costs”

- Constraint costs represent a mix of resource cost to society and pure transfer from consumers to producers<sup>5</sup>; and
- There is uncertainty over future constraint costs, and the influence of individual generators on constraint costs. In the longer term, upgrades to the transmission system and changes to market arrangements may reduce constraint costs<sup>6</sup>.

### **Risks and assumptions**

The precise costs and benefits of granting a time-limited licence exemption to Lynemouth are uncertain, and are sensitive to a range of factors, including counterfactual chosen, fossil fuel and carbon prices, commercial decisions and policy decisions. This gives rise to a wide range of possible outcomes. It is not possible to calculate probability distributions for the various outcomes, and how these might differ under the options considered. Hence, coming to a view on the overall costs and benefits of the options relies on some (possibly subjective) judgement.

The range of possible outcomes is summarised in the figure below.



<sup>5</sup> At a simple level, the result of National Grid's trading to resolve incremental network constraints, due to Lynemouth planning to generate, would be to achieve the same pattern of generation that would have occurred, had Lynemouth not been planning to generate. Under this view, the resource (i.e. fuel and carbon) costs to society associated with generating electricity shouldn't change, and any payments by National Grid over this would represent a pure transfer (i.e. "rent") to generators. However, given that National Grid may have to resolve network constraints in short timescales, it may be constrained in the choice of plant it can trade with, which may lead to higher resource costs associated with generating electricity.

<sup>6</sup> See paragraphs 25 to 29 of the Impact Assessment accompanying the Government's consultation on a Transmission Constraint Licence Condition (TCLC): <http://www.decc.gov.uk/assets/decc/11/consultation/transmission-constraint/3737-transmission-constraint-cons-ia.pdf>.



## Impact on long-term (2015 and beyond) costs and benefits of different scenarios

The presence of some probability of long-term generation cost savings (and additional balancing costs) described above depends on whether Curen is more likely to convert Lynemouth to biomass than AAUK would, if it continued to own Lynemouth. We believe this is a reasonable assumption. In contrast to AAUK, RWE, of which Curen is a subsidiary, have experience of converting coal power stations to biomass (e.g. Tilbury), and electricity generation is part of their core business. AAUK is thus likely to view investment in biomass conversion as a more risky investment opportunity. As such, they would need higher returns to convert to biomass, which reduces the likelihood of this happening.

We consider that it could be possible for Lynemouth to operate after 2015 as an unabated coal plant, although we believe this to be unlikely. We understand from RWE that this would require substantial additional capital investment to comply with environmental legislation, at a time when rising carbon prices (due to the combination of the EU ETS and the Carbon Price Floor) are increasing the costs of high-carbon coal generation relative to other types of generation. In any case, we do not believe that the probability of this occurring varies substantially between the two options under consideration, so the incremental costs and benefits of Option 2 relative to Option 1 would be unaffected.

## Impact on short-term (up to 2015) costs and benefits of different scenarios

Under the central scenario Option 2 has a neutral impact on short-term generation costs when compared to Option 1. However, depending on the scenarios, the granting of a licence exemption could result in either generation cost savings or additional generation costs in the short-term.

One scenario sees generation costs falling under Option 2, relative to Option 1, because of the possibility for lower cost generation in the short run, i.e. Lynemouth isn't available to generate under Option 1, but can provide cheaper generation under Option 2. This would depend on the relative gas and coal prices. For example, assuming a coal plant with 35% efficiency level<sup>7</sup>, a 41% load factor<sup>8</sup>, and taking into account DECC's appraisal values for carbon, central estimates for coal and gas price projections would result in generation cost savings of £77m(PV).

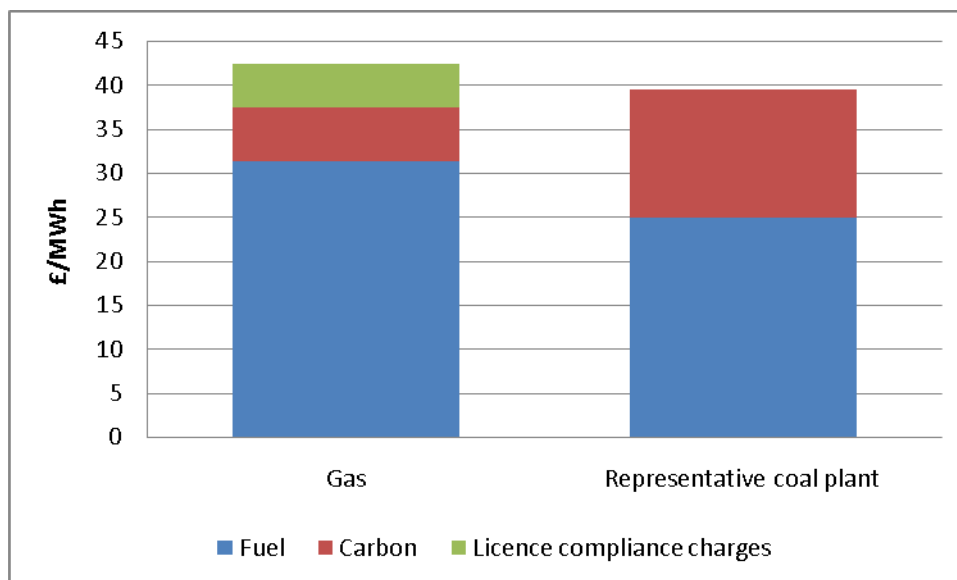
### Possible Short-term Generation Cost Savings

£million		2013	2014	2015
Coal plant	Fuel Costs	50	49	48
	Carbon Costs	16	16	18
	Total	66	65	66
Gas plant	Fuel Costs	79	86	87
	Carbon Costs	8	9	10
	Total	88	95	97
Difference (savings)		22	29	31

Another scenario, however, sees short-term generation costs increasing under Option 2, relative to Option 1. This is because Lynemouth, as a result of not being licensed, would receive an implicit subsidy. Specifically, Lynemouth would not have to pay Balancing Services Use of System Charges (BSUoS). This would allow Lynemouth to undercut other generators in the wholesale market, potentially meaning that it generates under Option 2 even in situations when, in pure resource cost terms, it could be more expensive than the generator it displaces. This is illustrated in the figure below.

<sup>7</sup> Efficiency is a measure of how well the plant converts thermal energy contained in the fuel into units of electricity. 35% is a commonly-used reference level for coal plant, and we understand similar to Lynemouth's actual level of efficiency.

<sup>8</sup> Load factor is a ratio of average output over theoretical maximum output over a period of time (usually a year). Estimate is average load factor of a coal plant (DUKES 2011).



Source: DECC Analysis. Illustrative figures only.

Ofgem estimate variable BSUoS charges at £1.54/MWh (based on estimated average charges for 2011/12). This can be seen as an upper bound on potential additional resource costs of generation since, if Lynemouth’s fuel and carbon costs were more than £1.54/MWh higher than the alternative generator, Lynemouth would not dispatch, since it would also be more expensive in private terms.

Projecting this “maximum inefficiency” forwards to 2015 gives a present value of £6m in additional costs. This may be an underestimate, to the extent that BSUoS charges are expected to increase in the future (no forecast is currently available). Given that the £1.54/MWh figure is based on an average BSUoS charge for the year, it may not reflect the BSUoS charge that Lynemouth might actually avoid in the hours that it generates (separate BSUoS charges are, in effect, calculated for each half-hour period of the year). However, it is worth noting that National Grid is currently consulting on a proposal to remove BSUoS charges from GB generators and, instead, recover BSUoS from GB suppliers only<sup>9</sup>. This would limit the ability of Lynemouth’s exemption to give it a competitive advantage in the wholesale market.

Additionally, under Option 1, Curen could proceed with the purchase of Lynemouth, even in the absence of the temporary licence exemption. We assume that Lynemouth is unable to immediately comply with the terms of a full generation licence, and so does not generate until 2015, by which time it converts to biomass. This could still happen if the future profitability of converting to biomass is such that it is worth Curen purchasing Lynemouth even without the ability to gain revenue in the first few years of ownership.

On balance, we believe that, while theoretically possible, it is most likely that Curen would not purchase the plant under Option 1. This is based on information from evidence submitted to DECC by Curen, stating that the “...the fixed costs of owning a power station that is unable to operate for this period...would make the transaction financially unviable”. Hence, our central estimate is for Option 2 to have no impact on short-term generation costs.

### Impact on investment signals

A licence exemption would also exempt Lynemouth from paying Transmission Network Use of System (TNUoS) charges. These charges are for use of the network, contain a locational element, and are charged on a capacity basis, rather than a generation basis, as is the case for BSUoS (i.e. per MW, rather than per MWh). Hence they do not affect generation decisions in the short-term.

However, they could affect investment and plant closure decisions in the long-term. Generally, TNUoS charges are higher where the need for network upgrades is expected to be higher (i.e. in the North of GB). Ofgem estimate a plant of Lynemouth’s size/type would pay around £3.5m in 2012/13.

If, under Option 1, Curen were to purchase Lynemouth as a licensed operator, then the effect of Option 2 would be to, in effect, give Lynemouth an additional implicit capacity payment relative to other power

<sup>9</sup> This is in order to better align the GB market arrangements with those prevalent in other EU member states and thus facilitate efficient competition with generation in those EU markets which are not subject to such charges. For more information, see <http://www.nationalgrid.com/NR/rdonlyres/1137F4CA-04C1-4271-BB97-A7290E61BEB5/51967/CMP201WGCconsultation.pdf>

stations. This might result in the plant staying open for an inefficiently long period of time, relative to other power stations. On the other hand, given that this would only last for 3 years, the effect should be limited.

### **Cost-benefit analysis - Option 3**

Option 3 has similar impacts to Option 2 in the period to 2015. However, in contrast to Option 2, Option 3 would create risks of misallocation of resources in the long-term. The distortions to competition, due to exemptions from BSUoS and TNUoS would persist into the long-term (irrespective of whether Lynemouth eventually converted to biomass).

Compared to the (“worst-case”) scenario where Curen would have been happy to operate Lynemouth as a licensed plant, Option 3 could result in additional generation costs of £30m (PV). This is based on projecting the £1.54/MWh BSUoS charge saving (explained above) forward to 2030 (the time horizon of this cost-benefit analysis). In addition, given that the implicit capacity payment (i.e. relief from TNUoS) would persist for longer, the risk that the plant stays open for longer than would be efficient becomes more material.

### **Direct Costs to Business – Option 2**

This IA identifies a number of costs and benefits. However, our central assessment is that there are no direct costs or benefits to business under Option 2, relative to Option 1 (“do nothing”). Hence, we believe the policy to be a net zero cost IN.

In the central scenario, direct cost savings to business could arise as a result of potential lower renewables subsidy support costs, which are borne by (retail) suppliers in the first instance. However, to the extent that future operation of Lynemouth results in increased balancing (“constraint”) costs, and the extent to which these represent additional resource costs to society, there could be additional costs to business. For reasons explained above, we have not sought to capture either of these impacts in the overall NPV calculation. Hence, we do not believe they should be captured in the net cost to business calculation either.

If, under Option 1, Curen purchased the plant, then Option 2 would lead to direct cost savings to Curen. The main cost saving is the cost of compliance of the BSUoS and TNUoS charges which the generator would be required to pay otherwise. Ofgem estimate that these costs would come to around £2.3m in BSUoS charges and £3.5m in TNUoS charges per year for a plant of this size/type, or £16.3m PV to 2015. However, these cost are in effect borne by other generators and suppliers (and ultimately consumers) through increased charges, so we believe this does not constitute a net direct saving (or cost) to business overall but rather a transfer between businesses.

## **Wider impacts**

### ***Competition***

Option 2 could have an impact on competition. In summary, we believe there is the potential for a small short-term distortion to competition, traded off against an additional probability of seeing Lynemouth operating in the future in fair competition with other generators.

The central case sees no additional distortion to competition in the short run, and Lynemouth becoming licensed from 2015, potentially operating as a biomass generator. In the scenario where Curen decide to purchase the plant under Option 1, Option 2 would lead to a distortion in competition between generators, through removing licensing charges from Lynemouth. However, as noted above, the impact of this is relatively small, could be limited by regulatory changes, and would last only for a time-limited period (in contrast to Option 3).