Incentives update – Contracts for Difference and reforms to the RHI

16 March 2017, 12:00 – 12:45

Host

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Send us your questions during the webinar

If your panel is minimised, click the orange button to expand it.

Your questions go straight to the presenters.
Incentives update: Contracts for Difference and reforms to RHI

Richard Dyton

16 March 2017
UK Incentive Regimes

The UK incentive regime for renewable energy is driven by two key policy issues:

- commitments to reduce greenhouse gas emissions under international agreements such as the Kyoto protocol and domestic legislation in the form of the Climate Change Act 2008; and
- The need to secure energy supplies and reduce reliance on imported oil & gas.

Small scale Feed in Tariffs (FiT), Renewables Obligations (RO) and Renewable Heat Incentive (RHI) have made the UK an attractive destination for renewable energy developers over the past decade.

Supported technologies have included wind, solar, geothermal, and hydro. Although not strictly speaking renewables, low carbon technologies such as energy from waste and combined heat and power (CHP) plants are generally covered by the incentive regimes.

The target is for 30% renewable energy generation of electricity by 2020. The Energy and Climate Change Select warned in September 2016 that the government will miss this target unless more is done.

But...

- legislation and traditional banding can't keep up with market forces;
- falling costs of deployment meant excess profit at the expense of unsustainable energy bills; and
- The issue is highly politicised.

The government confirmed in November 2015 an intention to limit renewables support to technologies that have potential to scale up and compete without subsidy.

Discipline now imposed in the form of the Levy Control Framework (LCF)

Contracts for Differences (CfDs) are replacing the Renewables Obligation as the main way of supporting renewables projects.
Available Incentive Schemes

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Renewables Obligation (RO)</td>
<td></td>
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<td>2002 - 2017</td>
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<td>Feed in Tariffs (FiTs)</td>
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<td>2010 -</td>
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<td>Renewable Heat Incentive (RHI)</td>
<td></td>
<td></td>
<td></td>
<td>2011 -</td>
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<tr>
<td>Contracts for Difference (CfD)</td>
<td></td>
<td></td>
<td></td>
<td>2014 -</td>
</tr>
</tbody>
</table>
Electricity Market Reform

- After three years of debate the Energy Bill, legislatating for the Government’s Electricity Market Reform (EMR), became the Energy Act in December 2013

- EMR will deliver savings to consumers of around £5bn to 2030, relative to the current RO regime - RO closed to new projects from 1 April 2017

- Primary mechanisms:
  - Capacity Market – ensuring security of supply
  - Contracts for Difference
    - CfDs will become the main incentive regime for renewable projects not supported by the existing small scale feed-in tariff regime (≤5MW)
    - The first CfDs were allocated on 26th February 2015
    - Second allocation begins 3 April 2017
The Levy Control Framework

- Designed to control the costs of supporting low-carbon electricity paid for through consumer energy bills. Although, it is considered Government spending
  - The LCF pays for the support schemes RO, FiT and CfD
- The idea was that investors would be given the reassurance of a highly visible pot of money agreed in advance. The cap on spending put a limit on potential impacts on household bills.
- In 2012, the government announced a £7.6bn LCF cap for 2020/21 – actual cost expected to be £8.7bn
- March 2017 budget announced that LCF will be scrapped, probably after 2021, to be replaced with new cost controls
- Budget also announced plans for “a total carbon price” with a “specific tax rate” from 2021/22
The Levy Control Framework – Forecast vs. Reality

**Levy Control Framework caps for electricity policies rise to 2020-21**

<table>
<thead>
<tr>
<th>Year</th>
<th>£ million</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014-15</td>
<td>3,300</td>
</tr>
<tr>
<td>2015-16</td>
<td>4,300</td>
</tr>
<tr>
<td>2016-17</td>
<td>4,900</td>
</tr>
<tr>
<td>2017-18</td>
<td>5,800</td>
</tr>
<tr>
<td>2018-19</td>
<td>6,450</td>
</tr>
<tr>
<td>2019-20</td>
<td>7,000</td>
</tr>
<tr>
<td>2020-21</td>
<td>7,800</td>
</tr>
</tbody>
</table>

**Department’s forecast of the Framework’s scheme costs (June 2015)**

In June 2015 the Department reported that the Framework’s costs were on course to exceed the cap in every coming year, and just within the 10% headroom in 2020-21.

**2011-12 prices (£bn)**

<table>
<thead>
<tr>
<th>Year</th>
<th>Forecast costs</th>
<th>Cap plus 20% headroom</th>
<th>Framework cap</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015-16</td>
<td>4,335</td>
<td>5,160</td>
<td>4,300</td>
</tr>
<tr>
<td>2016-17</td>
<td>5,455</td>
<td>5,880</td>
<td>4,900</td>
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<tr>
<td>2017-18</td>
<td>6,235</td>
<td>6,720</td>
<td>5,600</td>
</tr>
<tr>
<td>2018-19</td>
<td>7,205</td>
<td>7,740</td>
<td>6,450</td>
</tr>
<tr>
<td>2019-20</td>
<td>8,375</td>
<td>8,400</td>
<td>7,200</td>
</tr>
<tr>
<td>2020-21</td>
<td>9,100</td>
<td>9,120</td>
<td>7,600</td>
</tr>
</tbody>
</table>

**Notes**

1. The Department published Framework caps to 2020-21 in 2011-12 prices.
2. The Department publishes Framework caps in nominal terms at the time of the relevant spending review or spending round. It has, however, estimated that the cap in 2020-21 will be $3.8 billion in nominal terms (i.e. 2020-21 prices).

Source: Department of Energy & Climate Change

**Note**

1. The results of this forecast were published by the Office for Budget Responsibility in its July 2015 Economic and Fiscal Outlook.

Source: National audit office analysis of Department of Energy & Climate Change data
Renewable Heat Incentive

- Financial incentive to increase the uptake of renewable heat introduced in November 2011 for business and public sector organisations
- Domestic RHI and non-domestic RHI
- 20 years of quarterly RHI payments commencing from Ofgem accreditation
- Calculated based on amount of heat generated
- Only some technologies are eligible: biomass (but not liquid), biogas, biomethane, geothermal, solar thermal, air/ground source heat pumps
- Sustainability criteria apply to biomass, biogas or biomethane
- Complex interaction with other support schemes, eg. RO CHP uplift
What is a CfD?

A financial instrument that pays low carbon generators the difference between the “strike price” reflecting investment in low carbon technology and the “reference price” reflecting average market price for electricity.

- The generators will then sell energy to suppliers, and the cost at which they sell this energy may be the same as the strike price; below it; or slightly above it.

- If the sales of energy by the generators are the same as the strike price, then there is no further action.

- If the price is below the strike price, it will trigger top up payments by the counterparty.

- If the sales by the generators are at a higher price, it will result in generators paying back the difference.
What is a CfD?

- 15 year contract between an eligible generator and the Low Carbon Contracts Company
- Funded through a charge on suppliers
- Not strictly speaking a Power Purchase Agreement

Issues in development:
- Generator credit support
- Necessary and minor changes
- Cure period for breach
- Milestone delivery dates
- Capacity adjustment
- Status of CfD counterparty
- Private wire arrangements

Diagram:
- Government
- Delivery Body (National Grid)
- Generators
- CfD Counterparty Body
- Suppliers
- Settlement Agent

Settlement function could be carried out on behalf of counterparty body.
Auction process

- The allocation process worked as follows for allocation round one:
  - all projects will be ranked by their sealed bid, representing the strike price they would be willing to accept
  - working from the bottom of the ranked list upwards, projects that can offer the lowest bids would be allocated CfDs first
  - once the entire allocated budget is used up, no further projects will be awarded CfDs
  - all projects get the last accepted bid for the technology in that year
# Allocation Round One: outcome

DECC published the first outcome of allocation round one on 26 February 2015

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Developer</th>
<th>Technology</th>
<th>MW</th>
<th>Strike Price (£)</th>
<th>Delivery Year</th>
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</thead>
<tbody>
<tr>
<td>BHEG Walsall</td>
<td>BH EnergyGap (Walsall) Ltd</td>
<td>Advanced Conversion Technologies</td>
<td>26</td>
<td>114.39</td>
<td>2018-2019</td>
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<tr>
<td>Energy Works (Hull)</td>
<td>Energy Works (Hull) Limited</td>
<td>Advanced Conversion Technologies</td>
<td>25</td>
<td>119.89</td>
<td>2017-2018</td>
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<tr>
<td>Enviroparks Hirwaun Generation Site</td>
<td>Enviroparks Operations Ltd</td>
<td>Advanced Conversion Technologies</td>
<td>11</td>
<td>119.89</td>
<td>2017-2018</td>
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<tr>
<td>Wren Power and Pulp</td>
<td>Gent Fairhead &amp; Co. Ltd</td>
<td>Energy from Waste with CHP</td>
<td>49.75</td>
<td>80.00</td>
<td>2018-2019</td>
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<tr>
<td>K3 CHP Facility</td>
<td>K3CHP Ltd</td>
<td>Energy from Waste with CHP</td>
<td>45</td>
<td>80.00</td>
<td>2018-2019</td>
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<tr>
<td>EA 1</td>
<td>Scottishpower Renewables (UK) Limited</td>
<td>Offshore Wind</td>
<td>714.00</td>
<td>119.89</td>
<td>2017-2018</td>
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<tr>
<td>Neart na Gaoithe</td>
<td>Neart na Gaoithe Offshore Wind Limited</td>
<td>Offshore Wind</td>
<td>448</td>
<td>114.39</td>
<td>2018-2019</td>
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<tr>
<td>Dorenell Wind Farm</td>
<td>Dorenell Limited</td>
<td>Onshore Wind</td>
<td>177</td>
<td>82.50</td>
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<tr>
<td>Kype Muir Wind Farm</td>
<td>Banks Renewables (Kype Muir Wind Farm) Limited</td>
<td>Onshore Wind</td>
<td>104</td>
<td>82.50</td>
<td>2018-2019</td>
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<tr>
<td>Clocaenog Forest Wind Farm</td>
<td>RWE Innogy UK Limited</td>
<td>Onshore Wind</td>
<td>96</td>
<td>82.50</td>
<td>2018-2019</td>
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<td>Middle Muir Wind Farm</td>
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<td>Onshore Wind</td>
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<td>82.50</td>
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<tr>
<td>Brenig Wind Farm - Brenig Wind</td>
<td>Brenig Wind Limited</td>
<td>Onshore Wind</td>
<td>45</td>
<td>79.23</td>
<td>2016-2017</td>
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</tbody>
</table>
## Allocation Round One: outcome

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Developer Name</th>
<th>Technology</th>
<th>Capacity</th>
<th>Average Price</th>
<th>Start Date</th>
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<tbody>
<tr>
<td>Mynydd Y Gwair Wind Farm</td>
<td>RWE Innogy UK Limited</td>
<td>Onshore Wind</td>
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<td>79.99</td>
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<td>Nanclach Wind Farm</td>
<td>Nanclach Limited</td>
<td>Onshore Wind</td>
<td>39.1</td>
<td>82.50</td>
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<td>Solwaybank Wind Farm</td>
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<td>Onshore Wind</td>
<td>37.5</td>
<td>82.50</td>
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<tr>
<td>Snoddon Law Community Wind Farm</td>
<td>Snoddon Law Community Wind Company Limited</td>
<td>Onshore Wind</td>
<td>37.5</td>
<td>79.99</td>
<td>2017-2018</td>
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<tr>
<td>Coire Na Cloiche Windfarm</td>
<td>Coire Na Cloiche Windfarm LLP</td>
<td>Onshore Wind</td>
<td>30</td>
<td>82.50</td>
<td>2018-2019</td>
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<tr>
<td>Bad a Cheo Wind Farm</td>
<td>RWE Innogy UK Limited</td>
<td>Onshore Wind</td>
<td>29.9</td>
<td>82.50</td>
<td>2018-2019</td>
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<td>Tralorg Wind Farm</td>
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<td>Onshore Wind</td>
<td>20</td>
<td>82.50</td>
<td>2018-2019</td>
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<tr>
<td>Moor House Wind Farm</td>
<td>Banks Renewables (Moor House Wind Farm) Limited</td>
<td>Onshore Wind</td>
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<td>Achlachan Wind Farm</td>
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<td>Common Barn Wind Farm</td>
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<td>Onshore Wind</td>
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<td>2018-2019</td>
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<td>Wick Farm Solar Park</td>
<td>Hadstone Energy Limited</td>
<td>Solar PV</td>
<td>19.1</td>
<td>50.00</td>
<td>2015-2016</td>
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<tr>
<td>Charity Farm</td>
<td>Lightsource SPV136 Limited</td>
<td>Solar PV</td>
<td>14.67</td>
<td>79.23</td>
<td>2016-2017</td>
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<tr>
<td>Royston Solar Farm</td>
<td>ROYSTON SOLAR FARM LIMITED</td>
<td>Solar PV</td>
<td>13.78</td>
<td>50.00</td>
<td>2015-2016</td>
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<tr>
<td>Netley Landfill Solar</td>
<td>REG Netley Solar Ltd</td>
<td>Solar PV</td>
<td>12</td>
<td>79.23</td>
<td>2016-2017</td>
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<tr>
<td>Trianglo Farm Solar Park</td>
<td>Cambridgeshire County Council</td>
<td>Solar PV</td>
<td>12</td>
<td>79.23</td>
<td>2016-2017</td>
</tr>
</tbody>
</table>
Poll question

On the basis of the type of contract to be achieved through CfD Auctions, what type of bidder is likely to be most interested?

A. Developer  
B. Financier  
C. Technology Provider
Send us your questions
Incentives update - Contracts for Difference and reforms to the RHI

Martin Williams
Senior Consultant
March 2017
Agenda

- Latest developments
  - Feed-In-Tariffs (FiTs)
  - Renewable Heat Incentive (RHI)
  - Contracts for Difference (CfDs)

- Summary and conclusions
**Feed-in-Tariffs (FiTs)**

**Overview**
- Eligible technologies
  - Solar PV
  - Wind
  - Micro-CHP
  - Hydro
  - AD
- Up to $5\text{MW}_e$ ($2\text{kW}_e$ for micro-CHP)
- Separate tariffs for:
  - Electricity generated, and
  - Electricity exported
- Possible to fix tariffs in advance of scheme commissioning

**Recent changes to FiT regime**
- **2015** full scheme review:
  - Revised generation tariffs for PV, wind and hydro
  - Quarterly deployment caps
- **2016** review for AD and micro-CHP:
  - Revised generation tariffs for AD
  - Sustainability criteria for new AD schemes from 1st May 2017
    - Quarterly reporting to Ofgem
    - Independent annual audit reports (>1MW$_e$ only)
  - Feedstock restrictions for AD
    - Generation payments limited where more than 50% of biogas yield (by energy content) not from wastes or residues
# Feed-in-Tariffs (FiTs)

## Revised AD Tariffs

<table>
<thead>
<tr>
<th>Capacity (kW(_e))</th>
<th>0-250</th>
<th>250 - 500</th>
<th>500 - 5,000</th>
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</thead>
<tbody>
<tr>
<td>Original</td>
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<td></td>
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<tr>
<td>Proposed</td>
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<tr>
<td>Final</td>
<td></td>
<td></td>
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</table>

### Generation Tariff (p/kWh, 2017 prices)

- 0.0
- 1.0
- 2.0
- 3.0
- 4.0
- 5.0
- 6.0
- 7.0
- 8.0
- 9.0

## Deployment Queue Status

<table>
<thead>
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<th>Period</th>
<th>Q1</th>
<th>Q2</th>
<th>Q3</th>
<th>Q4</th>
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</thead>
<tbody>
<tr>
<td>2017</td>
<td>PV Hydro</td>
<td>Wind (50 – 100 kW(_e))</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2018</td>
<td>AD</td>
<td></td>
<td>Wind (100 – 1,500 kW(_e))</td>
<td></td>
</tr>
</tbody>
</table>
Overview

- Eligible technologies
  - Solid biomass (including biomass in waste)
  - Ground/water-source heat pumps
  - Air-source heat pumps
  - Geothermal
  - Solar thermal
  - Biogas combustion
  - Biomethane injection

- 20-year tariff duration
- No upper capacity limit
- Payments based on heat from eligible installation that is used for an eligible purpose
- Not currently possible to fix tariffs in advance of scheme commissioning

Recent changes to RHI regime

- 2016 full scheme review:
  - Introduce tariff guarantees for: large biomass, ground source heat pumps, biomethane, biomass CHP and geothermal
  - Tariff amendments:
    - Merge current three biomass tariffs into a single (tiered) tariff
    - Biomethane tariffs to be returned to April-June 2016 levels
    - Biogas tariffs to be returned to October-December 2016 levels
  - Feedstock restrictions for AD
    - Generation payments limited where more than 50% of biogas yield (by energy content) not from wastes or residues
  - Eligible uses of heat
    - Digestate drying no longer to be eligible
    - Wood drying and aquaculture to be reviewed
- 2016 introduction of power efficiency threshold for biomass CHP schemes
**Renewable Heat Incentive**

### Revised Biomass Tariff

<table>
<thead>
<tr>
<th></th>
<th>Tier 1 (p/kWh)</th>
<th>Tier 2 (p/kWh)</th>
<th>Tier Threshold</th>
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<tr>
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<td>Small</td>
<td>3.1</td>
<td>0.82</td>
<td>15%</td>
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<tr>
<td>Medium</td>
<td>5.24</td>
<td>2.27</td>
<td>15%</td>
</tr>
<tr>
<td>Large</td>
<td>2.05</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>New (all capacities)</td>
<td>2.91</td>
<td>2.05</td>
<td>35%</td>
</tr>
</tbody>
</table>

**Tariff Guarantee Process**

- **Preliminary Approval**
  - Made when financial close is imminent

- **Application for full tariff guarantee**
  - 3 weeks from preliminary approval
  - Submit proof that FC has been reached
  - Receive tariff in effect at this point

- **Application for full accreditation/registration**
  - Made upon commissioning of the plant
Overview

- Generators enter into 15-year contract with the Low Carbon Contracts Company (LCCC)
- Contract entitles generator to payments for the difference between the contract ‘strike price’ and a ‘reference price’
- Generator also obligated to pay LCCC where reference price greater than strike price
- Generators can only apply in response to an allocation round

Allocation Round 2 (AR2) update

- **November 2016**: Initial announcement of AR2
- **22nd Feb 2017**: CfD portal opened to registrations
- **13th Mar 2017**: Publication of statutory notices formally launching AR2
  - £295 million budget (£2012)
  - Target commissioning in 2021/22 or 2022/23
  - Eligible technologies are:
    - Offshore wind
    - ACTs
    - AD (>5MWₑ)
    - Dedicated biomass with CHP
    - Wave
    - Tidal stream, and
    - Geothermal
    - **EfW (with or without CHP) and onshore wind not eligible**
  - Maximum of 150MWₑ fuelled capacity to receive CfDs
- Formal application window will be 3rd to 21st April 2017
- End date for the round is 11th September 2017
CfDs – AR2 Update

![Bar chart showing the administrative strike price (£/MWh, 2012 prices) for different technologies.

- **Technology**
  - Offshore Wind
  - Geothermal
  - Tidal Steam
  - Wave
  - Dedicated Biomass with CHP*
  - AD (>5MWe, with or without CHP)*
  - ACT (with or without CHP)*

* Denotes fuelled technology.

Administrative Strike Price (£/MWh, 2012 prices)
CfDs – Auctions

- Auction likely due to the maxima on fuelled technologies
- Successful bidders receive contract at the clearing price rather than bid
- Therefore a bid strategy is key

Bidding Tactics

- Submit sealed bid
  - Overly cautious on costs or High rate of return required
    - High bid price submitted
      - Scheme achieves ROI targets but Low chance of bid being successful
  - Realistic view on costs / return
    - Best bid submitted
      - Scheme achieves ROI targets and Higher chance of bid being successful
  - Overly optimistic view on costs or Excessively ambitious to submit successful bid
    - Low bid submitted
      - Highest chance of bid being successful but Risk that ROI targets not achieved

Realistic view on costs / return

Best bid submitted

Scheme achieves ROI targets and Higher chance of bid being successful

Low bid submitted

Highest chance of bid being successful but Risk that ROI targets not achieved
Do you think that the latest reforms to the UK incentives regime has provided:
  – More certainty,
  – Less certainty, or
  – No impact
on decision-making for renewable energy projects?
Summary and conclusions

- Anaerobic digestion
  - Some respite for 500kW_{e} – 5MW_{e} schemes
  - Greater focus on waste and residue feedstocks
  - Need for sustainability reporting
  - Will we see >5MW_{e} CfD schemes?

- ACTs
  - Strong likelihood of competition for CfDs

- Spring Budget 2017- Replacement of the LCF
Send us your questions
Incentives update – Contracts for Difference and reforms to the RHI
Contact us after the webinar if you have any questions or need support

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Our services include:
• Due Diligence
• Technical compliance support
• Sustainability compliance support
• Independent sustainability audits
• Incentives modelling
• Strategic incentive advice

Our services include advising on:
• Strategy for Round 2 of CFD
• Legal risk analysis of proposed contracts
• Advice on RHI use and appropriate contractual structures
• Settlement of compensation claims
• Drafting and negotiating terms of Planning Agreements for strategic development sites
• Preparing and submitting planning applications, appeals and High Court challenges.
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**Preventing and successfully resolving disputes in the waste industry**
Tuesday 11 April 2017 12:00 - 12:45

**Landfill Tax evasion by landfill operators and the new offences of facilitation**
Monday 24 April 2017 12:00 - 12:45

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