

<b>Title:</b> Government Response to the consultation on support for community energy projects under the Feed-in-Tariffs Scheme <b>IA No:</b> DECC0166  <b>Lead department or agency:</b> DECC  <b>Other departments or agencies:</b>	<b>Impact Assessment (IA)</b>	
	<b>Date:</b>	
	<b>Stage: Government Response</b>	
	<b>Source of intervention:</b> Domestic	
	<b>Type of measure:</b> Secondary legislation	
<b>Contact for enquiries:</b> Jennifer McVey jennifer.mcvey@decc.gsi.gov.uk		
<b>Summary: Intervention and Options</b>		<b>RPC Opinion:</b> Not Applicable

Cost of Preferred (or more likely) Option				
Total Net Present Value	Business Net Present Value	Net cost to business per year (EANCB on 2009 prices)	In scope of One-In, Measure qualifies as Two-Out?	
£0	N/A	N/A	No	N/A

**What is the problem under consideration? Why is government intervention necessary?** Community involvement in electricity generation can contribute to meeting the UK's 2020 renewable energy target and to diversifying and decarbonising electricity supply, as well as delivering wider social benefits such as community cohesion. The Feed-In Tariff (FIT) scheme has been specifically designed to promote take up of small-scale renewable electricity generation projects by households and communities. However, the deployment of community energy has been low and barriers remain, including access to finance, lack of skills and experience, cost of grid connection and length of time required to complete projects. Government intervention is required to reduce these barriers in order to increase community ownership.

**What are the policy objectives and the intended effects?**  
This policy is intended to encourage a shift in ownership of <math>\leq 5\text{MW}</math> electricity generation projects from commercial to community fully-owned or part-owned developments

**What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base):** Do Nothing: No change to the current policy framework.  
Lead Option: Widen the definition of community organisation to include registered charities and the wholly owned subsidiaries of such organisations; extend the exemption to the Meter Point Administration Number (MPAN) criterion within the existing site rule to allow 2 projects to share 1 grid connection and receive separate tariff; increase the length of the current preliminary accreditation validity periods for community projects by 6 months; issue guidance on the treatment of different community ownership models under the FITs scheme and the types of activities that can be supported by publicly funded grants without affecting eligibility for FITs payments. This is the preferred option to encourage a shift from household and commercial to community ownership, as it can be implemented quickly, will help tackle some of the key barriers that communities have told us they face in getting projects off the ground, and complements our wider policies on encouraging shared ownership.  
Government has decided not to proceed with the original consultation proposal (13 May 2014) to increase the maximum FITs capacity limit to 10MW for community projects. We received no new robust cost evidence to suggest that community projects at the 5-10MW scale have different cost structures from commercial projects. Moreover, notifying the European Commission to increase the ceiling to 10MW would trigger other changes to the FITs scheme, which could negatively impact <math>\leq 5\text{MW}</math> projects.

<b>Will the policy be reviewed?</b> It will be reviewed. <b>If applicable, set review date:</b> 2015					
Does implementation go beyond minimum EU requirements?			No		
Are any of these organisations in scope? If Micros not exempted set out reason in Evidence Base.		<b>Micro</b> Yes	<b>&lt; 20</b> Yes	<b>Small</b> Yes	<b>Medium</b> Yes
What is the CO <sub>2</sub> equivalent change in greenhouse gas emissions? (Million tonnes CO <sub>2</sub> equivalent)			<b>Traded:</b> 0.1 to 0.6		<b>Non-traded:</b>

*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: \_\_\_\_\_ **Edward Davey** \_\_\_\_\_ Date: \_\_\_\_\_ **10.11.2014** \_\_\_\_\_

# Summary: Analysis & Evidence

# Policy Option 1

**Description:** Widen the definition of community organisation to include registered charities and the wholly owned subsidiaries of such organisations; extend the exemption to the Meter Point Administration Number (MPAN) criterion within the existing site rule to allow 2 projects to share 1 grid connection and receive separate tariff; increase the length of the current preliminary accreditation validity periods for community projects by 6 months; issue guidance on the treatment of different community ownership models under the FITs scheme and the types of activities that can be supported by publicly funded grants without affecting eligibility for FITs payments. Costs and benefits are expressed as changes to the do nothing option.

## FULL ECONOMIC ASSESSMENT

Price Base Year 2011/12	PV Base Year 2014	Time Period Years 55	Net Benefit (Present Value (PV)) (£m)		
			Low: -10	High: 0	Best Estimate: 0

COSTS (£m)	Total Transition (Constant Price) Years		Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
	Low	N/A		
High	N/A		N/A	30
Best Estimate	N/A		N/A	0

**Description and scale of key monetised costs by 'main affected groups'** It is expected that the policy will result in a shift in deployment from commercial or household to full- or part-community ownership. The policy is not expected to result in additional overall UK renewable deployment (compared to what is currently expected). We have, however, included some sensitivity analysis to give an indication of the risk if the policy were to encourage additional renewable deployment to come forward. This is reflected in the cost range above, which compares the costs of any extra renewables deployment with the long-run variable cost of the grid electricity that would be displaced under 3 scenarios: 1) No additional renewable deployment (although there could be some shift from household and commercial to community ownership) – this is the most likely scenario; 2) Renewable deployment is higher by an amount equivalent to a 10% increase in community FITs deployment, compared to the absence of a change in policy; 3) Renewable deployment is higher by an amount equivalent to a 50% increase in community FITs deployment, compared to the absence of a change in policy. It is also unclear how much of estimated baseline community deployment will come forward under FITs and how much will come forward the RO/CfDs. We have assumed that 50% of estimated community baseline deployment will come forward under FITs and 50% will come forward under the RO/CfDs.

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

The analysis does not take account of any wider system costs that might be associated with increased renewable electricity deployment.

BENEFITS (£m)	Total Transition (Constant Price) Years		Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
	Low	N/A		
High	N/A		N/A	20
Best Estimate	N/A		N/A	0

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

We expect the monetised benefit to be zero, as we expect no additional deployment. There will, however, be non-monetised benefits associated with the policy, outlined below. As above, we have included a benefits range, which compares the value of higher GHG emissions savings if the policy were to encourage additional renewable deployment to come forward, relative to emissions from grid electricity. This is based on the scenarios outlined above. As above, scenario 1 (no new additional deployment) is the most likely. Emissions from grid electricity are quantified using the long-run marginal electricity emissions factor, and GHG savings are valued using the traded price of carbon.

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

Other non-monetised benefits could be realised through increased deployment of community energy projects. These include increased community cohesion, as community energy projects require the formation of a community organisation; skill development through volunteering; income generation for the community; reduced costs through economies of scale i.e. if the project implies a shift in the ownership model of the generating capacity from the individual household-level to community ownership, there could be benefits in terms of reduced costs from deploying at scale; as well as benefits to the local economy, in terms of increased local spend and boosting local supply chains. Evidence from other countries suggests that increased engagement of communities in renewable energy increases acceptance and support, both for local projects and for renewable energy in general. This can lead to greater understanding, less opposition and a quicker, cheaper development process for local projects.

Key assumptions/sensitivities/risks

**Discount rate (%)**

3.5%

There is uncertainty around the amount of community energy that would deploy in the absence of intervention and whether this would come forward under FITs or the Renewables Obligation (RO) or Contracts for Difference (CfDs). We have assumed 50% of estimated community baseline deployment will come forward under FITs and 50% will come forward under RO/CfDs.

Moreover, while it is expected that the Lead Option will result in no additional renewable deployment (although it is expected to result in a shift from commercial and household to community ownership), there is a risk that some additional renewable community deployment could come forward.

**BUSINESS ASSESSMENT (Option 1)**

Direct impact on business (Equivalent Annual) £m:			In scope of OITO?	Measure qualifies as
Costs: N/A	Benefits: N/A	Net: N/A	No	N/A

# Evidence Base

## Problem under consideration

1. Community involvement in electricity generation – such as community-owned projects or part community ownership of larger commercial projects – can contribute to meeting our goals of decarbonising and diversifying the power sector, and seeing a 15% share of our energy provided from renewable sources by 2020. The FITs scheme has been specifically designed to promote take up of small-scale low-carbon electricity generation technologies by individuals and communities as part of this portfolio approach to meeting our renewable energy target.
2. In addition to carbon benefits, community energy projects can also deliver wider impacts: they can promote community cohesion, as they require the formation of a community organisation to take the project forward. Members of the community can benefit from opportunities to develop skills through volunteering in the project, potentially increasing their employability. The current evidence base on the wider social benefits of energy projects is limited in scope and quality, with evidence typically being fragmented and anecdotal. One example of the ways in which community projects can develop skills is illustrated by the Brixton Energy Solar 3 project on the Roupell Park Estate. Brixton Energy raised funds through a community share offer. They then provided work experience for young people, giving 15 local young people training in IT, finance, legal, media, structural and draught-proofing, as well as 4 weeks of paid work experience alongside professional installers on the solar array (see the Community Energy Strategy for further details  
[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/275163/20140126\\_Community\\_Energy\\_Strategy.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/275163/20140126_Community_Energy_Strategy.pdf)).
3. The project could also generate income for the community, through the tariffs, which could be used to benefit the community, for instance, through the installation of energy efficiency measures. If the project results in a shift in the ownership model of the generating capacity from the individual household-level to community ownership, there could be benefits in terms of reduced costs from deploying at scale. Moreover, community projects may help boost local supply chains and the income that individual households make from investing in a community energy projects can be spent locally, contributing to the local economy.
4. Community electricity projects between 50kW and 5MW can apply for support under either the Renewables Obligation (RO) or FITs. Larger community projects can currently apply for support under the RO only and will be eligible to apply for support under the forthcoming Contracts for Difference (CfD) scheme. However, as set out in the recent Government Response to the consultation on controlling spending on large-scale solar PV within the Renewables Obligation<sup>1</sup>, the RO will be closed to new solar PV capacity over 5MW from 1 April 2015.
5. Following publication of the Government Response to Consultation on “Comprehensive Review Phase 2B: Tariffs for non-PV technologies and scheme administration issues” in July 2012, Government introduced in December 2012, a package of changes to support community energy projects. The main elements were:
  - Creation of a definition of “community energy projects” that includes installations where the FIT generator is one of a range of small scale not-for-profit enterprises, and reflect that definition in tariff tables (although tariff rates were set at the same rates as ‘non community ‘projects given that there was no evidence to suggest that the cost of community projects differ);
  - Exempting community energy PV projects from the minimum energy efficiency requirement – this covers community energy PV projects on non-domestic buildings, and

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<sup>1</sup> [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/360280/Government\\_response\\_RO-FIT\\_changes\\_to\\_Solar\\_PV\\_-\\_FINAL\\_2014-10-02.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/360280/Government_response_RO-FIT_changes_to_Solar_PV_-_FINAL_2014-10-02.pdf)

all PV installations on schools and further education colleges; they still need to obtain an Energy Performance Certificate, but at no specified level;

- Putting in place a system of tariff guarantees, similar to those provided for installations with preliminary accreditation during the development phase for non-domestic community energy projects; and
- Making it possible for community energy projects to benefit from preferential tariffs in future, if we find that to be justified.

6. However, deployment of community electricity generation projects remains low (installed capacity is currently estimated at 66MW in total) and barriers remain:

- Energy projects require a range of skills to be successful. An issue flagged in DECC's Community Energy Strategy (2014)<sup>2</sup> and raised again in the responses to the Community FITs consultation was that many community groups have some of the necessary expertise due to the professional backgrounds or previous experience of their membership but it is rare to find the full range of skills among members of a single project. Projects can also be vulnerable to changes in members' circumstances, for example, where leading members need to reduce involvement due to work commitments. This is a particular issue where there is reliance on volunteers. Respondents to the consultation on Community FITs noted that community projects tend not to have the level of expertise and knowledge available to commercial organisations, and might therefore have to pay consultants to provide technical advice
- A further barrier raised by the sector and set out in the Community Energy Strategy is around access to finance for community projects. Unlike commercial organisations, community groups usually have neither assets to borrow against nor a portfolio of potential projects over which to spread risk. The result is that project development finance is usually entirely at risk, such that if the project does not go ahead, all the money is lost. Private sector investors are rarely interested in providing such finance. Finance costs tend to be higher than for commercial developers, as it is difficult for investors to gauge the risk profile
- At the point of requiring project finance, community energy groups have indicated that they need a sound business case, which includes clear income streams through FITs or Power Purchase Agreements (PPAs). Community energy groups are often small and tend to be inexperienced at operating in the energy market. This can make it more difficult for them to negotiate a PPA and, consequently, produce a business case, as the income stream is unknown
- Community groups have also suggested that the speed and cost of connecting to the electricity market can be a major barrier to getting projects off the ground
- Navigating the planning process designed around the needs of large commercial organisations can also be challenging for community groups
- Further barriers identified in the Community Energy Strategy include the complexity and fragmented nature of information relating to community energy, which means that it can be difficult for companies to navigate existing resources to find the advice they need
- Difficulties have also been reported with aspects of the FITs process. These include delays in the regulation process and uncertainties around the interaction between FITs and grants
- Some community energy groups are concerned about the impact that the introduction of Contracts for Difference (CfDs) will have on the Power Purchase Agreement (PPA) market, as Renewable Obligation Certificates (ROCs) are phased out from 2016

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<sup>2</sup> [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/275163/20140126Community\\_Energy\\_Strategy.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/275163/20140126Community_Energy_Strategy.pdf)

- Specific issues raised by respondents to the Community FITs consultation include that community projects can be constrained to particular areas, as they tend to be built within the community. This can lead to the project being built on marginal land that a commercial developer would not build on, with additional capital development costs. Moreover, the community could be in a remote location, meaning additional costs of flying out contracted technical experts, such as engineers
  - It was also suggested that community projects can take longer to complete, at each stage of the process, compared to commercial projects, for example, as a result of the need for fundraising time and community consultation
  - Moreover, the skills and experience accrued over time enable commercial companies to learn, improve their process, and make time and cost savings, particularly if they work on a portfolio of projects. Community groups tend not to be able to benefit from such economies of scale, as they often work on only one or a relatively small number of projects
7. We expect the majority of community projects coming forward to be at the  $\leq 5$  MW scale, based on responses to the consultation and our analysis. Government has therefore decided to introduce a number of new measures relating to support for community energy projects up to 5 MW under the current FITs scheme. These are to:
- Widen the definition of ‘community organisation’ to include registered charities and the wholly owned subsidiaries of such organisations. This will provide more choice of legal structure and make it possible for a wider range of groups to access the community provisions in the FITs scheme
  - Extend the exemption to the Meter Point Administration Number (MPAN) criterion within the existing site rule to allow two projects to share one grid connection and receive separate tariffs. This will help reduce up-front costs and complexity, and make it easier for community groups to own individual assets and receive support under the FITs scheme
  - Increase the length of the current preliminary accreditation validity periods for community projects by six months. This recognises that community energy projects need more time to raise funds and engage the local community.
  - Issue guidance to confirm the treatment of different community ownership models under the FITs scheme and to help community groups to come to an agreement with a commercial developer over sharing FITs payments
  - Issue guidance on the types of activities that can be supported by publicly funded grants, without affecting eligibility for FITs payments under the current rules combining FITs and grants
8. Government has decided not to proceed with the original consultation proposal (13 May 2014) to increase the maximum FITs capacity limit to 10 MW for community projects. We received no new cost evidence to suggest that community projects at the 5-10 MW scale have different cost structures from commercial projects. Moreover, notifying the European Commission to increase the ceiling to 10 MW would trigger other changes to the FITs scheme, which could negatively impact  $\leq 5$  MW projects.

## Rationale for intervention

9. Community electricity generation projects can deliver social benefits, including community cohesion, skill development, income for the community through the FITs tariffs and potential cost reductions in terms of economies of scale if the project results in a shift in ownership from the household to community level. Community projects can also boost local supply chains and support local economies, as households that earn income from investing in community projects spend this locally. Given these potential benefits, Government is aiming to encourage a greater shift from commercial to community ownership of electricity generation projects. The measures proposed in this IA could help address the barriers that community projects face and lead to increased community ownership of energy projects. They complement wider work being taken forward through the Community Energy Strategy and the Shared Ownership Taskforce to unlock barriers and encourage shared ownership.

## Policy objective

10. This policy is intended to encourage a shift in ownership of  $\leq 5$  MW electricity generation projects from commercial to community fully-owned or part-owned developments.

## Descriptions of options considered

11. Two options are considered in this Impact Assessment:

- **Do Nothing:** No change to the current policy framework:
  - The FITs capacity limit remains at 5MW for community projects
  - The definition of 'community organisation remains unchanged
  - The existing site rule remains in place, such that community-owned infrastructure which shares the same grid connection to another development will be treated as being on the same site as the other development
  - Preliminary accreditation validity periods remain at 6 months for community solar PV; 1 year for community onshore and community anaerobic digestion (AD); and 2 years for community hydro
- **Lead Option:** Government introduces a range of measures to support community electricity generation at the  $\leq 5$  MW scale by:
  - Widening the definition of 'community organisation' to include registered charities and the wholly owned subsidiaries of such organisations
  - Extending the exemption to the Meter Point Administration Number (MPAN) criterion within the existing site rule to allow Ofgem to treat community-owned infrastructure as being located on a separate site to another development and receive a separate FIT tariff, even when they share the same grid connection. This will help reduce costs and complexity, and make it easier for community groups to own individual assets and receive support under the FIT scheme

- Increasing the length of the current preliminary accreditation validity periods for community projects by a blanket six months. This recognises that community energy projects need more time to raise funds and engage the local community.
- Issuing guidance to confirm the treatment of different community ownership models under the FITs scheme and to help community groups to come to an agreement with a commercial developer over sharing FITs payments
- Issuing guidance on the types of activities that can be supported by publicly funded grants, without affecting eligibility for FITs payments under the current rules combining FITs and grants

12. The costs and benefits of these options are set out in the sections below.

## Monetised costs and benefits

### *Assumptions and Methodology*

13. We are proposing that the changes set out under the Lead Option in the ‘Description of Options Considered’ be applied to all FITs technologies  $\leq 5$ MW.
14. Community electricity projects  $\leq 5$ MW are currently able to apply for support under FITs or may come forward under shared ownership (in the form of share offers or joint ventures) as part of a larger project with a commercial organisation under the Renewables Obligation and, in future, CfDs. It is our intention that this continue to be the case.
15. Based on independent modelling for the Community Energy Strategy, the majority of pipeline community projects will be onshore wind (around 65%), a further 25% will be solar and around 10% will be hydro. Our analysis therefore focuses on these three technologies; although there is evidence of a small amount of community anaerobic digestion (AD) coming through (around 1% of the pipeline).
16. The 1 April to 31 December 2014 solar tariffs and 1 April 2014 to 31 March 2015 tariffs were taken from the Ofgem website<sup>3</sup>.
17. For each technology, we have assumed the slowest possible rate of tariff depression, in order to give a conservative estimate of support cost by technology.

### *Do Nothing*

18. The community electricity generation sector is still at an early stage of development in the UK, with an estimated total installed capacity of around 66MW, at all sizes (18MW at 0-5MW) so far<sup>4</sup>. This means that there is little evidence on which to base our estimate of technical potential for  $\leq 5$ MW community projects. As a result, any projection of  $\leq 5$ MW community deployment is very uncertain.
19. We start by estimating the total capacity of  $\leq 5$ MW community installations that might deploy under the do nothing option out to 2020. DECC’s Community Energy Strategy estimated deployment of community projects at all scales to range from 500MW to 3GW by 2020, with a central estimate of 600MW. We have employed the 600MW figure in our analysis and addressed the uncertainty surrounding expected future deployment of community projects in our scenario analysis, where we vary additional capacity coming forward under the Lead Option relative to Do Nothing.

<sup>3</sup> <https://www.ofgem.gov.uk/environmental-programmes/feed-tariff-fit-scheme/tariff-tables>

<sup>4</sup> From the Renewable Energy Planning Database (REPD) as at end-December 2013, the RO Risk Register as at end-December 2013 and DECC’s Community Energy Strategy: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/274746/20140108\\_Community\\_Energy\\_Modelling\\_FinalReportJan.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/274746/20140108_Community_Energy_Modelling_FinalReportJan.pdf)



20. Data from the Renewable Energy Planning Database (REPD) as at end-December-2013, the Renewables Obligation (RO) Risk Register and independent modelling for the Community Energy Strategy on capacities of existing and in-development community projects suggest that around 69% of all community projects are  $\leq 5$ MW. Applying this to the 600MW figure gives cumulative estimated deployment of  $\leq 5$ MW community projects by 2020 of 415MW.
21. Of the 415MW, 18MW are installed capacity, leaving 397MW (rounded) in the pipeline.
22. However, not all of this will come forward under the FITs scheme. Shared ownership, either in the form of share offers or joint ventures, would be very likely to be supported via the RO or CfD regimes, especially once it becomes the norm for communities to be offered the opportunity of some level of ownership by commercial developers. We have assumed that 50% of cumulative estimated  $\leq 5$ MW community deployment i.e. 199MW, will come forward under FITs by 2020. The other 50% will come forward under the RO or CfDs.
23. This IA focuses on the approx. 200MW of community projects assumed to come forward under FITs by 2020. The 200MW assumed to come forward under the RO/CfDs is assumed to be unchanged regardless of whether or not we introduce the policy proposals outlined in this IA.
24. The approx. 200MW assumed to come forward under FITs out to 2020/21 is broken down according to the assumptions in Table 1 (which are based on analysis underpinning the Community Energy Strategy). This gives cumulative pipeline deployment in the Do Nothing option of 46MW for solar, 130MW for onshore wind, 21MW for hydro and 2MW for AD out to 2020/21. Since deployment of AD is so low, the analysis focuses on solar, onshore wind and hydro. We assume for the purpose of the analysis that this capacity is spread evenly over the six years between 2015/16 and 2020/21, and that it all comes forward under FITs.

Table 1: Breakdown of Pipeline Community Capacity

Technology:	% of Total:	Cumulative Additional (Pipeline) Deployment in 2020/21 (MW)
Solar	23%	46
Onshore	66%	130
Hydro	11%	21
Anaerobic Digestion	1%	2
Total	100%	199

\*Breakdowns do not sum to total due to rounding

### Lead Option

#### Central Estimate

25. We expect the Lead Option to result in a shift from household and commercial to community ownership. As such, as we expect no additional deployment, no change in the quantified net present value (carbon benefits less resource cost) and no change in support cost to consumers. However, a shift in ownership could lead to wider benefits associated with increased community ownership (see para 53).

#### Risk Assessment

26. While we do not expect any additional renewable deployment under the Lead Option, this section addresses the risk that some additional deployment could come forward following the policy changes.
27. To estimate the costs and benefits of additional deployment we have used scenario analysis. As such, the results are subject to some uncertainty.
28. Within the risk assessment, we have developed 2 scenarios in addition to the central estimate. Additional deployment assumed to come forward under the Lead Option relative to Do Nothing is given as a range, based on additional deployment coming forward under the 2 scenarios.

29. In the first scenario, overall deployment increases by an amount equivalent to a 10% increase in community FITs deployment relative to the Do Nothing option. In the second scenario, it is assumed that overall deployment increases by an amount equivalent to a 50% increase in community FITs deployment relative to the Do Nothing option. The 50% is expected to be a high estimate of possible additional deployment but has been used in our modelling to enable us to estimate a high potential impact on the Levy Control Framework (LCF).

*Results of the Risk Assessment*

30. Estimates of the potential impact on deployment, generation, net present value (NPV) and Levy Control Framework (LCF) should this policy lead to additional renewable deployment are given below.

*Risk to Deployment*

- 31. Capacity coming forward under the Lead Option relative to Do Nothing is presented as a range from the lower to the highest capacity coming forward in the scenario analysis.
- 32. Cumulative <math>\leq 5\text{MW}</math> additional community capacity under the Lead Option relative to Do Nothing in 2020/21 is assumed to range from 20 to 100MW (0 to 20MW solar; 0 to 10MW hydro and 10 to 70MW onshore wind). At the lower end of the range, we assume the policy leads to additional FITs deployment equivalent to a 10% increase in community deployment relative to Do Nothing. The upper end of the range assumes the policy leads to a 50% increase in community deployment relative to Do Nothing.

Table 2: Estimated Cumulative Capacity from 2015/16 to end- 2020/21 (MW)\*

Lead Option relative to Do Nothing	Cumulative Capacity by 2020/21 (MW)	Breakdown (MW)
Risk Scenario 1 (Additional FITs deployment is equivalent to a 10% increase in community deployment relative to Do Nothing)	20	solar 0 hydro 0 onshore 10
Risk Scenario 2 (Additional FITs deployment is equivalent to a 50% increase in community deployment relative to Do Nothing)	100	solar 20 hydro 10 onshore 70

\*Breakdown does not sum due to rounding

*Risk to Generation*

33. Estimated generation (should the policy lead to additional renewable deployment) was derived from estimated cumulative deployment using solar and onshore wind load factors from DECC’s Quarterly and Annual Load Factors, 2014<sup>5</sup> and a hydro load factor from the Digest of UK Energy Statistics (DUKES), 2012<sup>6</sup>. We used DUKES for hydro, as opposed to the more up-to-date information in Quarterly and Annual Load Factors, as the 2 years of hydro data in Quarterly and Annual Load Factors are very different and based on a small sample<sup>7</sup>. Estimated additional FITs annual generation in 2020/21 relative to Do Nothing is given for each technology in Table 3.

<sup>5</sup> <https://www.gov.uk/government/statistics/quarterly-and-annual-load-factors> (For solar, we have used the 2011/12 weighted mean annual load factor, as this is in line with the 10-year average, and 2012/13 whereas sun hours in 2012/13 were particularly low; for onshore wind, we used the average of the weighted mean annual load factor)

<sup>6</sup> <https://www.gov.uk/government/statistics/renewable-sources-of-energy-chapter-6-digest-of-united-kingdom-energy-statistics-dukes> (Table 6.5)

<sup>7</sup> All load factors will be updated by January 2015

Table 3: Estimated Annual Generation in 2020/21 (GWh)\*

Lead Option relative to Do Nothing	Additional Annual Generation in 2020-21 (GWh)	Breakdown (GWh)
Risk Scenario 1 (Additional FITs deployment is equivalent to a 10% increase in community deployment relative to Do Nothing)	30	solar 0 hydro 10 onshore 20
Risk Scenario 2 (Additional FITs deployment is equivalent to a 50% increase in community deployment relative to Do Nothing)	150	solar 20 hydro 30 onshore 120

\*Figures do not sum due to rounding

### Estimated Risk to Net Present Value (NPV)

34. Net present value (NPV) is the carbon benefits less resource cost.
35. Resource cost is calculated as the estimated levelised cost of the increased FITs deployment less the long-run variable cost of electricity<sup>8</sup> (LRVC). The LRVC is the societal cost (excluding carbon but including transmission and distribution costs) of producing marginal electricity, reflecting the mix of electricity generation that might be displaced by increased FITs deployment.
36. Levelised costs to FITs developers were taken from DECC's Electricity Generation Costs report, 2013<sup>9</sup> and internal DECC estimates for 2015, 2017 and 2019 (calculated on the same basis as published data for 2016 and 2020 from the published report).
37. The carbon benefit has been estimated using the long-run marginal electricity emissions factor<sup>10</sup> (reflecting the emissions that would have been emitted by the displaced electricity generation) and the traded carbon price<sup>11</sup> (reflecting the savings to the UK economy of the UK reducing emissions in the traded sector i.e. covered by the EU Emissions Trading Scheme (EU ETS)). The NPV, broken down into costs and benefits, is given in Table 4 below. The range reflects the range in results for an increase in FITs deployment equal to 10-50% of additional community <math>\leq 5\text{MW}</math> deployment relative to Do Nothing.
38. Costs and benefits are assessed over the lifetime of the technology. For solar, this is assumed to be 25 years, for onshore wind 24 years and for hydro 50 years.
39. The risk to the NPV ranges from -£10 to £0; there is therefore an estimated -£10-0m cost associated with this policy proposal.

Table 4: Net Present Value (£m)\*

Lead Option relative to Do Nothing	NPC (£m)	NPB (£m)	NPV (£m)
Risk Scenario 1 (Additional FITs deployment is equivalent to a 10% increase relative to Do Nothing)	10	0	less than 5
Risk Scenario 2 (Additional FITs deployment is equivalent to a 50% increase relative to Do Nothing)	30	20	-10

<sup>8</sup> From DECC Departmental Guidance (Data Tables 1-20: Supporting the Toolkit and the Guidance (Table 9) ) (IAG Guidance), 2014: <https://www.gov.uk/government/publications/valuation-of-energy-use-and-greenhouse-gas-emissions-for-appraisal>

<sup>9</sup> <https://www.gov.uk/government/publications/electricity-generation-costs-december-2013>

<sup>10</sup> From DECC Departmental Guidance (Data Tables 1-20: Supporting the Toolkit and the Guidance (Table 1) ) (IAG Guidance), 2014: <https://www.gov.uk/government/publications/valuation-of-energy-use-and-greenhouse-gas-emissions-for-appraisal>

<sup>11</sup> From DECC Departmental Guidance (see footnote 7), table 3

\*Values do not sum due to rounding

### Risk to Levy Control Framework (LCF) Costs

40. The range in cost to consumers/ risk to LCF budget reflects the range of scenarios around the amount of additional deployment likely to come forward as a result of the policy change (i.e. an increase in FITs deployment equal to 10-50% relative to Do Nothing).
41. We applied capacity weighted tariffs by technology to estimated deployment in each of the scenarios to derive an estimate of the risk to support cost to consumers.
42. To estimate the annual FITs tariff for each technology out to the end of 2020/21, we weighted the tariff for each technology according to the proportion of existing and pipeline capacity projected to deploy at each tariff band.
43. The weighted tariff for solar, for instance, was  
10 to 50kW tariff\*4% + 50 to 150kW tariff\*4%\* 250-5000kW and standalone tariff\*92%
44. This reflects that 4% of actual plus pipeline capacity is in the 10-50kW tariff band, 4% is in the 50 to 150kW band and 92% is either 250 to 5,000kW or standalone (both of which have the same tariff). The actual plus pipeline deployment was based on information provided by respondents to the consultation, the REPD database and developer/community group websites.
45. The solar weighted tariff was applied to estimated cumulative additional community solar deployment out to 2020/21 in both scenarios. The same approach was taken for onshore wind and hydro.
46. It was assumed that tariffs at the start of 2015/16 were equal to the solar April 2014 to end-December 2014 tariff and the non-PV April 2014 to end-March 2015 tariffs, adjusted for inflation. In order to give a conservative estimate of how tariffs would degress over time, we have assumed the slowest possible rate of degression for each technology i.e. 3.5% every 9 months for solar and 2.5% per year for onshore and hydro.
47. For 2020/21, it was assumed that projects would be installed throughout the course of the year and, as such, the tariff will only be paid on a proportion of projects installed during 2020/21 in the timespan covered by the IA. For simplicity, it was assumed that the tariff would start to be paid on 50% of all projects installed during 2020/21.
48. Assuming that the capacity weighted tariff is paid on all projects installed between 2015/16 and the end of 2019/20, and on 50% of projects installed during 2020/21, gives an estimated additional FITs support cost of £0-12m in 2020/21 within the risk assessment under the Lead Option. The lower end of the range is based on the policy bringing forward additional FITs deployment equal to a 10% increase in community deployment relative to Do Nothing. The upper end reflects additional FITs deployment equal to a 50% increase in community deployment relative to Do Nothing.

Table 5: Change in FITs Support Costs in 2020/21, 2011/12 prices, undiscounted

Lead Option relative to Do Nothing	FITs Support Cost in 2020/21 (£m)	Breakdown (£m)
Risk Scenario 1 (Additional FITs deployment is equivalent to a 10% increase in community deployment relative to Do Nothing)	2	solar 0 hydro 1 onshore 1
Risk Scenario 2 (Additional FITs deployment is equivalent to a 50% increase in community deployment relative to Do Nothing)	12	solar 1 hydro 4 onshore 7

49. The potential impact of the changes to FITs support costs set out in the risk assessment on household electricity bills is estimated at less than £0.1 to less than £0.2, or less than 0.02% to

less than 0.03% of an estimated household bill in 2020/21. In percentage terms, the impact on bills for businesses is expected to be similar.

## Assumptions

50. As outlined above, the starting point for estimating the potential cost to consumers of the Lead Option was to estimate  $\leq 5$ MW capacity coming forward under the FITs scheme between now and 2020/21 in the absence of any intervention. There is uncertainty around our estimate, which is based on independent modelling for DECC's Community Energy Strategy, as well as data from the REPD database (as at end-December 2013) and the RO Register (as at end-December 2013), but it is our current best estimate.
51. It is also unclear whether  $\leq 5$ MW community energy capacity coming forward between now and end-2020/21 in the absence of any intervention would come forward under the FITs scheme or under the RO/CfDs, as part of a shared ownership model with a commercial developer. We have assumed 50% of expected cumulative community deployment will come forward under FITs.
52. Another area of uncertainty is around the amount of additional cumulative  $\leq 5$ MW community deployment that will come forward under the Lead Option relative to Do Nothing i.e. the extent to which the policy change will encourage new additional deployment and the extent to which it will simply lead to a shift in ownership from commercial to community. We expect the policy to bring about no additional deployment; although there could be some shift from commercial to community ownership under FITs. While the proposed package of measures will help address some of the barriers to community energy, a number of wider obstacles remain which we expect will limit deployment of community projects out to 2020/21. No additional deployment is in line with our policy objective. There is a risk, however, that the policy could encourage some additional deployment relative to Do Nothing, representing additional spend within the LCF. We carried out some sensitivity analysis around this, in the risk assessment above.

## Wider Impacts

53. Introducing the proposed policy changes could deliver wider impacts in addition to decarbonisation of the power sector. These include community cohesion, as such projects require the formation of a community organisation; skill development through volunteering; the project could generate income for the community; there could be benefits in terms of reduced costs if the project implies a shift in ownership of generating capacity from the household to community level; and there could be benefits to the local community in terms of boosting local supply chains and increased local spend. However, the current evidence base on the wider social benefits of energy projects is limited in scope and quality, with evidence typically being fragmented and anecdotal. It has therefore not been possible to quantify the wider benefits associated with the intervention. Increased FITs deployment may also entail some wider system costs that aren't reflected in the levelised cost estimates but the magnitude of these is uncertain (note that the benefits of reduced transmission and distribution costs associated with FITs deployment are reflected to some extent in the long-run variable cost estimates used for the electricity displaced).

## Summary and recommended option

54. Given the wider benefits related to community energy deployment and the small impacts on FIT support costs for consumers and under the LCF we recommend introducing the Lead Option i.e.:
  - Widen the definition of 'community organisation' to include registered charities and the wholly owned subsidiaries of such organisations
  - Extend the exemption to the Meter Point Administration Number (MPAN) criterion within the existing site rule to allow Ofgem to treat community-owned infrastructure as being located on a separate site to another development, even when they share the same grid

connection. This will help reduce costs and complexity, and make it easier for community groups to own individual assets and receive support under the FIT scheme

- Increase the length of the current preliminary accreditation validity periods for community projects by six months. This recognises that community energy projects need more time to raise funds and engage the local community.
- Issue guidance to confirm the treatment of different community ownership models under the FITs scheme and to help community groups to come to an agreement with a commercial developer over sharing FITs payments
- Issue guidance on the types of activities that can be supported by publicly funded grants, without affecting eligibility for FITs payments under the current rules combining FITs and grants

55. Our central estimate is that the Lead Option will have no net impact on deployment, generation, the net present value or support cost to consumers; although it is expected to bring about a shift in ownership from household and commercial to community, in line with our policy objective.

56. We have, however, carried out a risk assessment to illustrate the potential impacts if the policy were to bring about some additional deployment, summarised in Table 6 below. These are all relative to Do Nothing.

Table 6: Results of Risk Assessment – Summary of Key Impacts

<b>Impact</b>	<b>Risk Relative to Do Nothing</b>
Deployment (Cumulative MW in 2020/21)	20 to 100
Generation (Annual GWh in 2020/21)	30 to 150
Net Present Value (Discounted over Lifetime of Plant, £m, 2011/12 prices)	-10 to 0
Support Cost to Consumers (Annual Cost in 2020/21 of Additional Deployment up to and Including 2020/21, £m, 2011/12 prices)	2 to 12