

Title: Increasing the specified maximum capacity for community installations under the FITs scheme IA No: DECC0166 Lead department or agency: DECC Other departments or agencies:	Impact Assessment (IA)				
	Date: 07/05/2014				
	Stage: Development/Options				
	Source of intervention: Domestic				
	Type of measure: Secondary legislation				
Contact for enquiries: Jennifer McVey jennifer.mcvey@decc.gsi.gov.uk					
Summary: Intervention and Options					RPC Opinion: 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, Two-Out?	Measure qualifies as
£0 to -47m	N/A	N/A	No	N/A

What is the problem under consideration? Why is government intervention necessary?

Currently the Feed-in-Tariffs (FITs) scheme provides support to projects up to 5MW. Larger projects can obtain support under the Renewables Obligation (RO) and, in future, Contracts for Difference (CfDs). Increasing the FITs capacity ceiling to 10MW could encourage more community projects to go ahead given that community projects >5MW can struggle to deploy under the RO and CfDs. This is because they tend to be inexperienced at operating in the energy market, making it difficult to produce a Purchase Power Agreement (PPA) and therefore a business case, as the income stream is unknown. In contrast, FITs provide greater certainty of income, reducing barriers to deployment of these projects.

What are the policy objectives and the intended effects?

The objective is to increase deployment of 5-10MW community onshore wind, solar PV, hydro and anaerobic digestion (AD). There is, however, no new funding available to support any additional net renewable electricity generation that might come forward between 2015 and 2020 as a result of the proposed policy change. Affordability will therefore be an important consideration before deciding whether or not we could proceed with implementing the proposal.

What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)

1. Do Nothing: FITs maximum capacity remains at 5MW for community installations. Community installations greater than 5MW can continue to access the RO (until 2017) and CfDs.

2. Lead Option: FITs maximum capacity is increased to 10MW for community installations. FITs tariff for 5-10MW community projects set on the basis of equivalence with the highest FITs band for each technology, with FITs equivalence to be reviewed after one year, as part of the 2015 FITs comprehensive review. There is a separate degression band for 5-10MW community installations for each technology. Degression for the 5-10MW band will be at least equal to degression for the highest FITs band for each technology.

Will the policy be reviewed? It will be reviewed. If applicable, set review date: 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.		Micro Yes	< 20 Yes	Small Yes	Medium Yes
What is the CO ₂ equivalent change in greenhouse gas emissions? (Million tonnes CO ₂ equivalent)				Traded: 0.05 to 0.3	Non-traded:

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: Michael Fullon Date: 1st May 2014

Summary: Analysis & Evidence

Policy Option 1

Description: Create separate degression bands for 1) 50kW+ building mounted/ other than stand-alone and 2) ground mounted/ stand-alone installations

FULL ECONOMIC ASSESSMENT

Price Base Year 2011/12	PV Base Year 2014	Time Period Years 7	Net Benefit (Present Value (PV)) (£m)		
			Low:	High:	Best Estimate: 0 to -47

COSTS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	N/A	N/A	N/A
High	N/A	N/A	N/A
Best Estimate	N/A	N/A	0 to 48

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

There is uncertainty about the extent to which increasing the FITs capacity limit to 10MW for community projects will result in new additional UK deployment and the extent to which it will simply result in a shift in deployment from the RO to FITs. This is reflected in the range in resource cost above. The range also reflects the range in the proportion of the pipeline assumed to come forward under the 5-10MW FITs tariff and low to high levelised costs for each technology.

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

N/A

BENEFITS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	N/A	N/A	N/A
High	N/A	N/A	N/A
Best Estimate	N/A	N/A	0 to 1

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

Key monetised benefits consist of the value of higher GHG saving accruing due to increased deployment of onshore wind and solar PV relative to emissions from grid electricity. GHG savings are valued using the traded price of carbon (2013 IAG guidance).

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; skills development through volunteering; income generation for the community; reduced costs through economies of scale; as well as benefits to the local economy, in terms of increased local spend and boosting local supply chains.

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. Moreover, it is highly uncertain the extent to which increasing the FITs capacity ceiling for community projects will result in net additional UK deployment and the extent to which it will simply incentivise a shift in capacity from the RO to FITs. There is also uncertainty around the proportion of the pipeline that is expected to deploy in the 5-10MW community FITs band.

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 the public 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).
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 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. 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. Community projects between 5 and 10MW 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.
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 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. Since Government introduced these separate provisions for communities, Ofgem have received 62 applications for pre-accreditation from communities, of which 32 have been granted. Total capacity of the 62 communities (plus 15 schools) to have applied is 933kW. All of the projects are <50kW (Ofgem, February 2014).
<https://www.renewablesandchp.ofgem.gov.uk/Public/ReportManager.aspx?ReportVisibility=1&ReportCategory=0>
 7. However, a barrier remains to the deployment of community projects over the 5MW capacity limit under FITs. Feedback from community groups has suggested that market-based support schemes, such as the RO or the future Contracts for Difference (CfD) are not ideal for community groups looking to invest in larger projects. In particular, community groups can struggle to access finance. Unlike larger commercial organisations, community groups usually have neither assets to borrow against nor a portfolio of potential projects over which to spread the 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. The larger the scale of the community project, the greater the size of the investment at risk.
 8. Following the development phase, the project requires finance for construction. At the point of requiring project finance, a community energy group should have a project with 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. FITs provides a known and, unlike market schemes, unvarying income stream post commissioning. FITs therefore provides greater certainty for community energy groups, allowing them to build a business case, thereby lowering the barriers to deployment that these groups face.
 9. Government is therefore proposing increasing the FITs capacity ceiling to 10MW for community projects. 10MW is considered to be an appropriate upper bound for the FITs capacity ceiling, based on stakeholder feedback, which suggested that community projects are unlikely to exceed 10MW capacity. Increasing the capacity ceiling could address the potential access to market issues faced by community groups looking at larger projects and lead to more community projects coming forward, either as a result of a shift in ownership from commercial to community or as new additional community projects. However, there is no new funding available to support any additional net renewable electricity generation that might come forward between 2015 and 2020 as a result of the proposed policy change. Affordability will therefore be an important consideration before deciding whether or not we could proceed with implementing the proposal.

Rationale for intervention

10. Independent modelling for the Community Energy Strategy (Capener, 2014 <<https://www.gov.uk/government/publications/community-renewable-electricity-generation-potential-sector-growth-to-2020>>) suggests that approximately 239MW of community projects of up to 10MW will deploy by 2020. These 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. Increasing the FITs capacity ceiling to 10MW for community projects could help address the access to market

barriers that larger scale community projects face and lead to increased community ownership of energy projects.

Policy objective

11. This policy is intended to encourage a shift in the ownership pattern of 5-10MW energy projects from commercial developments to community fully-owned or part-owned developments.
12. Affordability will be an important consideration in deciding whether or not we can proceed with implementing this policy proposal. Costs of renewable electricity generation are passed on to consumers, and are limited by the Levy Control Framework (LCF). The LCF sets the maximum that can be expected to be passed on to consumers in any year, and is set to 2020. This covers support to small-scale renewable generation through FITs, as well as large-scale low-carbon generation support through the Renewables Obligation (RO), Contracts for Difference (CfDs) and Financial Investment Decision-enabling for Renewables (FIDeR). The LCF has been set to aim to manage the impact on consumer bills, but also to provide industry with the necessary assurance of UK commitment to its decarbonisation targets.

Descriptions of options considered

13. Two options are considered in this Impact Assessment:

- **Do Nothing:** FITs maximum capacity remains at 5MW for community installations. Community installations greater than 5MW can continue to access the RO (until 2017) and CfDs.
- **Lead Option:** FITs maximum capacity is increased to 10MW for community installations. In this analysis, it is assumed that the FITs tariff for 5-10MW community projects is set on the basis of equivalence with the current highest FITs band for each technology, with FITs equivalence to be reviewed after one year, as part of the 2015 FITs comprehensive review. There will be a separate degression band (automatic trigger point for deployment, which if met results in tariff reductions for future projects) for 5-10MW community installations for each technology. Degression for the 5-10MW band will be at least equal to degression for the highest FITs band for each technology.

An alternative approach would be to set the FITs tariff for 5-10MW community projects on the basis of equivalence with support under Contracts for Difference (CfDs) for each technology, with CfD equivalence to be reviewed after one year, as part of the 2015 FITs comprehensive review. There will be a separate degression band for 5-10MW community installations for each technology. If degression in the current highest FITs band would reduce the current highest FITs tariff below the 5-10MW community tariff, then degression for the 5-10MW community band will at least equal degression for the current highest FITs band for each technology.

14. The costs and benefits of these options are set out below.

Monetised costs and benefits

Assumptions and Methodology

15. We are proposing that the increase in the maximum capacity ceiling of 10MW for eligible community projects be applied to all renewable technologies currently included in the FITs scheme; anaerobic digestion (AD), hydro, solar PV standalone, solar PV non-standalone and onshore wind.
16. Given the lack of evidence to suggest that community projects have different costs to non-community projects at the 5-10MW scale, we are proposing that the 5-10MW community tariffs are set at RO equivalence. This is the basis on which we have set the tariffs for the current largest onshore wind, AD and hydro bands in the current FITs scheme (although the tariff for onshore wind has now degressed and broken RO equivalence, so that the proposed 5-10MW tariff is equivalent to the level of this degressed tariff).
17. For solar, the current highest tariff band was set based on analysis of cost evidence rather than RO equivalence. The solar tariffs are designed to provide a rate of return of 4.5 to 8% for a typical, well-sited installation (See Feed-in-Tariffs Scheme: Government Response to Consultation on Comprehensive Review Phase 2A: Solar PV Cost Control <https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/43085/5386-government-response-to-consultation-on-comprehensi.pdf>). Given the lack of evidence on costs of 5-10MW community solar projects, we propose setting the 5-10MW community tariff equivalent to the current highest FIT tariff, which is broadly equivalent to support under the RO.
18. Community electricity projects at 5-10MW are currently able to apply for support under the RO and it is our intention that they will be able to continue to come forward under the RO/forthcoming Contracts for Difference (CfDs) if the maximum capacity ceiling for community projects under FITs is increased.
19. Looking at the RO Register (as at end-December 2013) and independent modelling for the Community Energy Strategy (Capener, 2014 <<https://www.gov.uk/government/publications/community-renewable-electricity-generation-potential-sector-growth-to-2020>>), the majority of operational and pipeline community projects are onshore, with 5MW of existing community solar. Our analysis therefore focuses on these two technologies; although there is evidence of some community hydro coming through at smaller scales (about 28MW by 2020, all <5MW).

Do Nothing

20. The community electricity generation sector is still at an early stage of development in the UK, with a total of 66MW installed at all sizes (48MW at 5-10MW) so far (Capener, 2014 <<https://www.gov.uk/government/publications/community-renewable-electricity-generation-potential-sector-growth-to-2020>>). This means that there is little evidence on which to base assumptions around technical potential for 5-10MW community projects. As a result, any projection of deployment under the 5-10MW community FITs tariff is very uncertain.
21. Of the 48MW of existing 5-10MW community capacity, 5MW of solar came forward under the current FITs scheme; the rest are onshore projects, which deployed under the RO. It is unclear how the onshore projects managed to deploy, given the access to finance barriers expected to be faced by projects of this size.
22. It is likely that given wider changes to financial support provided for renewable generation, more projects come forward as community-owned than would be the case in the absence of these wider changes. They include the move to competitive allocation for mature technologies under CfDs from 2015/16, which could encourage projects to seek support under FITs if they are rejected from the CfD constrained allocation process, and the closure of the RO to solar projects >5MW from the end of 2014/15.

23. We start by estimating the total capacity of 5-10MW 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.
24. Data from the Renewable Energy Planning Database (REPD) (as at end December-2013), the RO Register (as at end-December 2013), and independent modelling for the Community Energy Strategy (Capener, 2014 <<https://www.gov.uk/government/publications/community-renewable-electricity-generation-potential-sector-growth-to-2020>>) on capacities of existing and in-development community projects suggest that around 31% of all community projects are of 5-10MW capacity. Applying this to the 600MW figure gives cumulative estimated deployment of 5-10MW community projects by 2020 of 185MW (this implies no community deployment greater than 10MW).
25. Of the 185MW, 48MW is installed capacity, primarily onshore (43MW), leaving 137MW in development.
26. A breakdown of the existing and in-development community projects shows that around 95% of 5-10MW projects are onshore wind, with the remaining 5% solar PV. Applying this breakdown to the 185MW and deducting installed capacity gives cumulative estimated deployment of 5-10MW community onshore wind and solar PV of 132MW and 5MW respectively, by 2020.
27. In the absence of any policy intervention, we assume that this 137MW of 5-10MW projects will come forward under the RO and, in future, CfDs, by 2020.
28. The rest of the 5-10MW REPD pipeline projects that are awaiting construction and are at the pre-consent stage are also assumed to come forward under the RO or CfDs. There will, however, be considerable uncertainty around the proportion of these projects that are approved and actually go ahead, and whether there are further projects, not yet in the REPD database that could deploy prior to 2020.

Lead Option

29. To estimate the costs and benefits of the FITs scheme, we have used scenario analysis, which suggests that 5-10MW community projects will come forward under the Lead Option. As such, the results are subject to some uncertainty.
30. Within this option, we have developed 7 scenarios. Deployment assumed to come forward under the Lead Option relative to Do Nothing is given as a range, based on deployment coming forward under each of the 7 scenarios.
31. In the first 4 scenarios, we assume that the Lead Option does not result in any additional deployment coming forward; while there will be deployment of 5-10MW projects in the 5-10MW community FITs band, we assume that this is not new capacity i.e. this would have otherwise come forward under the RO or CfDs. This is in line with what the Community Energy Strategy suggested might happen. The 137MW of 5-10MW community projects assumed to come forward in the do nothing option still comes forward under the RO. The reason that this does not come forward under FITs is that the RO provides a marginally higher level of support for onshore wind; throughout the analysis, we have taken a pessimistic approach to cost estimation, to illustrate the magnitude of the potential risk.
32. Not all projects listed in REPD will come forward. They could, for example, be refused planning permission, or get part-way through the process and then something changes with the project finances that renders it unviable. There is also the possibility in future that projects do not receive financial support, as they are rejected from the CfD allocation process, which will be constrained (including, based on current proposals, for onshore and solar). Moreover, assuming the RO is closed to solar from the end of 2014/15 (subject to another consultation), these projects could seek support under FITs. Therefore, by permitting 5-10MW projects to be supported under

FITs, it may result in projects coming forward in the new tariff band that would not otherwise have gone ahead.

33. Scenarios 5 to 7 therefore assume that the Lead Option does result in additional deployment. In these scenarios, capacity that comes forward under the 5-10MW community FITs band is assumed to be additional, and would not otherwise have come forward under the RO or CfDs. The 137MW of 5-10MW community projects still comes forward under the RO, unchanged from scenarios 1 to 4.
34. There is no firm evidence to support either the no-additionality or additionality hypothesis.
35. The 7 different scenarios for the Lead Option are set out in Tables 1 and 2 below, with more detail on assumptions provided below. Table 1 shows the scenarios that assume no additionality (scenarios 1 to 4) and Table 2 sets out the scenarios that do assume additionality (scenarios 5 to 7).

Table 1: Description of Scenarios 1-4 (Assuming No Additional UK Deployment)

Lead Option:	Capacity of 5-10MW Community Projects Coming Forward Relative to Do Nothing (i.e. in addition to 137MW of 5-10MW coming forward under the RO):
Scenario 1	10% of the REPD pipeline shifts from the RO to FITs by 2020
Scenario 2	25% of the REPD pipeline shifts from the RO to FITs by 2020
Scenario 3	50% of the REPD pipeline shifts from the RO to FITs by 2020
Scenario 4	75% of the solar REPD pipeline and 50% of the onshore REPD pipeline shifts from the RO to FITs by 2020

Table 2: Description of Scenarios 5-7 (Assuming Additional UK Deployment)

Lead Option:	Capacity of 5-10MW Community Projects Coming Forward Relative to Do Nothing (i.e. in addition to 137MW of 5-10MW coming forward under the RO):
Scenario 5	Capacity equal in size to 10% of the REPD pipeline comes forward under FITs by 2020 but would not have otherwise come forward in the absence of intervention
Scenario 6	Capacity equal in size to 25% of the REPD pipeline comes forward under FITs by 2020 but would not have otherwise come forward in the absence of intervention
Scenario 7	Capacity equal in size to 50% of the REPD pipeline comes forward under FITs by 2020 but would not have otherwise come forward in the absence of intervention

36. To model the scenarios outlined in Tables 1 and 2 above, we first estimate the size of the REPD pipeline. We focus on the 5-10MW pipeline (as at 12 March 2014, when the data were extracted). This includes both community and non-community projects, as it is not possible at present to differentiate community from non-community projects in the REPD database.
37. We only consider projects that are awaiting construction or are at the pre-consent stage, as projects that are under construction are assumed to be too far along the planning and development stage to be able to change their financing model and switch to FITs.
38. For solar, we deduct 80% of projects awaiting construction, based on anecdotal evidence from stakeholders, to account for projects that are too far along the planning and development stage to be able to switch to FITs. We also deduct 25% of projects at the pre-consent stage to account for projects that are assumed not to be approved, based on historical trends in the REPD. This gives us an REPD pipeline of about **270MW** of 5-10MW solar projects.
39. For onshore, we deduct one-third of projects awaiting construction, which are assumed not to proceed. We also deduct 50% of projects at the pre-consent stage, as we assume that they will

not receive planning consent, and deduct one-third of the remainder, which we assume will not proceed. These assumptions are based on historical trends in the REPD. We do not deduct any onshore projects on the basis that they are too far along the planning and development stage to be able to switch to FITs, as we only assume that onshore projects will start to switch to FITs from 2017 onwards. This gives us an REPD pipeline of approximately **400MW** of 5-10MW onshore projects.

40. It has been assumed that a smaller proportion of solar awaiting construction projects could shift relative to onshore, as the development time for solar projects is typically shorter, meaning there tends not to be as much time for projects to shift ownership from non-community to community prior to pre-accreditation. It is also assumed, however, that a greater proportion of solar pre-consent projects will be approved, and a greater proportion of projects that are approved are taken forward, potentially by communities.
41. The 270MW is assumed to equal annual deployment of 5-10MW solar projects, as solar projects can potentially deploy within 6 months of entering the planning system. Given development times for onshore wind projects, the 400MW is assumed to equal the REPD pipeline of onshore projects out to 2020. The **annual** REPD pipeline of 5-10MW projects is therefore assumed to equal **270MW** for solar and **70MW** for onshore.
42. To estimate the range of potential deployment under the 5-10MW community FITs tariff under the Lead Option, we carry out scenario analysis, using the annual pipeline of 270MW for solar and 70MW for onshore, and the 7 scenarios outlined in Tables 1 and 2 above.
43. In scenario 1, 10% of the annual 270MW solar pipeline shifts from the RO to FITs each year from 2015 to 2020. 10% of the annual 70MW onshore pipeline shifts from the RO to FITs each year from 2017 to 2020. Capacity is assumed to start to shift later for onshore, due to RO closure for solar and as there will be a 2-year lead-in time for onshore construction.
44. Scenarios 2 and 3 are the same as scenario 1, except we now assume that 25% and 50% of the pipeline shifts respectively.
45. Scenario 4 assumes 75% of the annual 270MW solar pipeline shifts from the RO to FITs each year from 2015 to 2020 and 50% of the annual onshore pipeline shifts from the RO to FITs each year from 2017 to 2020.
46. Scenarios 5 to 7 assume some additional UK deployment in the Lead Option. There is a lack of evidence on projects that would come forward under the Community FITs tariff but would not do so under the RO. Due to this uncertainty, we simply assume, in scenarios 5-7, that some proportion of 5-10MW community FITs deployment coming forward in scenarios 1 to 3 above is additional UK deployment i.e. would not have come forward under the RO. We do not expect additional deployment to be as high as 75% of the REPD pipeline for solar, so have only considered additional deployment of up to 50% in scenarios 5 to 7.

Results

47. Estimates of deployment, generation, net present cost (NPC) and LCF impacts for this policy are based on projections of net additional UK deployment. In the absence of cost evidence specific to 5-10MW community projects, we assume that technology costs are the same for community and non-community projects.
48. NPC figures and LCF impacts have been discounted using HMT, 2014: The Green Book.

Deployment

49. Capacity coming forward under the Lead Option relative to Do Nothing is presented as a range from the lowest to the highest capacity coming forward in the scenario analysis.
50. Based on the capacity figures in Table 3 below, capacity coming forward under the new 5-10MW community FITs tariff under the Lead Option is assumed to range from 190MW (160MW solar + 30MW onshore) to 1360MW (1220MW solar + 130MW onshore) relative to the do nothing option. Given the uncertainty about the proportion of the pipeline that could switch to FITs, and the

uncertainty about how much of the pipeline more generally could come forward, up to 100% of this capacity is assumed to be completely new additional capacity, which is supported within the Levy Control Framework (LCF). Note that the 190MW to 1360MW is capacity coming forward in addition to capacity in the do nothing option (where we assume 137MW by 2020).

Table 3: Estimated Cumulative Capacity from 2015 to end- 2020 (MW)

	Cumulative Capacity by 2020 (MW)	Support Mechanism	Breakdown of Cumulative Capacity by 2020 (MW)
Lead Option relative to Do Nothing	0 to 1360	FiTs	Solar 160 to 1220 Onshore 30 to 130

Generation

51. Estimated annual generation was derived from cumulative deployment, using load factors consistent with the Electricity Market Reform final Delivery Plan (<https://www.gov.uk/government/publications/electricity-market-reform-delivery-plan>) i.e. 27.5% for >5MW onshore and 11.1% for >5MW solar. Estimated annual generation in 2020 is given, for each technology, relative to do nothing, in Table 4.

Table 4: Estimated Annual Generation in 2020 (GWh)

	Annual Generation in 2020 (GWh)	Annual Generation in 2020 by Technology (GWh)
Lead Option relative to Do Nothing	200 to 1380	Solar 150 to 1090 Onshore 60 to 280

Net Present Cost (NPC)

52. NPC is the resource cost less carbon benefits.
53. For the resource cost, we have applied generation to levelised cost [DECC, 2013a. Electricity Generation Costs (December 2013). <https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/269888/131217_Electricity_Generation_costs_report_December_2013_Final.pdf> less the wholesale price (DECC, 2013b. Electricity Market Reform Final Delivery Plan. <<https://www.gov.uk/government/publications/electricity-market-reform-delivery-plan>>). The range in NPC reflects whether or not projects are assumed to be additional, as well as the proportion of the pipeline assumed to come forward under the 5-10MW community tariff and low to high levelised costs for each technology.
54. The carbon benefit was estimated by applying generation to the long-run marginal generation based grid emissions factor (DECC, 2013c: Green Book Supplementary Guidance: Valuation of Energy Use and Greenhouse Gas Emissions for Appraisal. Tables 1-20: Supporting the Toolkit and the Guidance. <<https://www.gov.uk/government/publications/valuation-of-energy-use-and-greenhouse-gas-emissions-for-appraisal>> and the traded carbon price (DECC, 2013).

Table 5: Estimated Net Present Cost (NPC) in 2020 (£m) (2011/12 prices)

	Net Present Cost in 2020 (£m)
Lead Option relative to Do Nothing	0 to 47

Cost to Consumers

55. The range in cost to consumers/ risk to LCF budget reflects the range of scenarios around the proportion of the pipeline assumed to come forward under FITs.
56. For scenarios where we assume no additional deployment i.e. any increase in deployment under FITs is offset by a reduction in deployment under the RO, the cost to consumers is the FITs cost of the deployment assumed to switch from RO to FITs plus the RO cost of the do nothing capacity less the RO cost of the deployment assumed to switch from RO to FITs less the RO cost of the do nothing capacity.
57. To estimate the monthly FITs tariff for each technology out to the end of 2020, we assumed minimum possible depression, with the first solar depression of 3.5% occurring in October 2014, and the first onshore depression of 2.5% in January 2015. The reason for this was to give a conservative estimate of costs. We used these estimates to derive average annual tariffs for each technology, which we applied to generation to obtain the FITs cost to consumers.
58. For the RO cost of switching capacity, we used a 2012 ROC price (excluding headroom) of £40.21.
59. If we assume no additional UK deployment i.e. any increase in FITs deployment represents a reduction in deployment under the RO, the cost to consumers will be close to zero, potentially with a small benefit.
60. For scenarios where we assume the increase in deployment under FITs is additional i.e. would not have come forward without the policy intervention, the cost to consumers represents the FITs cost of the additional capacity plus the RO cost of the do nothing capacity, less the do nothing cost of the RO capacity, as we present costs relative to the do nothing option. In this case, the cost of the intervention could reach about £49m.
61. The £45m can be considered a “high risk” estimate, given that it is based on maximum possible deployment, minimum possible depression, and all 5-10MW community deployment under FITs being new additional UK deployment that would not otherwise have come forward under the RO or CfDs.

Table 6: Total costs to consumers in 2020/21, 2011/12 prices, undiscounted

	Cost to Consumers in 2020 (£m)
Lead Option relative to Do Nothing	-5 to 45

Risks and Assumptions

62. As outlined above, the starting point for estimating the possible impacts of increasing the FITs capacity ceiling to 10MW for community projects is to estimate capacity of 5-10MW community projects coming forward in the do nothing option. There is uncertainty around the 137MW figure, which is based on independent modelling carried out for the Community Energy Strategy (Capener, 2014 <<https://www.gov.uk/government/publications/community-renewable-electricity-generation-potential-sector-growth-to-2020>>), 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.
63. Further, there is no firm evidence to suggest whether capacity coming forward under the proposed 5-10MW community FITs band would be additional UK deployment or whether this would have come forward anyway, in the absence of intervention, under the RO or CfDs. Given this uncertainty, we have simply suggested that up to 100% of the capacity assumed to come forward under the 5-10MW community tariff (0-1360MW) is completely new additional deployment, incentivised by the Lead Option, and which represents additional spending within the LCF.

64. Another source of uncertainty is the proportion of the REPD pipeline assumed to deploy under the 5-10MW community FITs band. This is particularly uncertain for solar projects, which can deploy more quickly than onshore. However, for the estimated additional cost under the LCF to exceed the £50m set out above, then solar deployment under the 5-10MW community FITs tariff would need to exceed capacity equal to 75% of the REPD pipeline (onshore would need to exceed 50%), and this would need to be additional UK deployment that would not have otherwise come forward.

Wider Impacts

65. Increasing the FITs capacity limit to 10MW for community projects 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.

Summary and recommended option

66. The recommended option is to increase the FITs capacity ceiling to 10MW for community projects.

67. Table 7 below summarises the deployment, resource cost, carbon benefit, overall NPC and cost to consumers associated with this option, all in 2011/12 prices, all discounted and all relative to the do nothing option.

Table 7: Summary of Preferred Option

Impact	Cumulative to 2020:
Deployment (MW)	0 to 1360
Resource Cost (£m)	0 to 48
Carbon Benefit (£m)	0 to 1
Net Present Cost (£m)	0 to 47
Cost to Consumers (£m)	-5 to 45