Title: Comprehensive Review Phase 1- Consultation on Feed in Tariffs for solar PV	Impact Assessment (IA)
	Date: 8 February 2012
IA No: DECC0073	**Stage:** Final
	Source of intervention: Domestic
Lead department or agency: DECC	**Type of measure:** Secondary legislation
Other departments or agencies:	**Contact for enquiries: Jackie Honey Jackie.honey@decc.gsi.gov.uk**

Summary: Intervention and Options

RPC:

Cost of Preferred (or more likely) Option				
Total Net Present Value	**Business Net Present Value**	**Net cost to business per year** (EANCB in 2009 prices)	**In scope of One-In, One-Out?**	**Measure qualifies as**
£1000m	£m	£m	No	

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

Feed in Tariffs for small scale generation technologies were introduced in April 2010. Recent evidence shows that uptake of solar PV has been much faster than originally anticipated, triggered by a substantial fall in PV costs. Current tariffs are out of step with the cost of PV, providing excessively high returns on investment and posing a serious risk to the feed-in tariff budget. Intervention is necessary to correct tariffs, reduce rents and provide value for money for consumers. This IA reflects costs and benefits of moving from the previous tariff schedule to new PV tariffs presented in the Government Response to the 1 November consultation on PV.

What are the policy objectives and the intended effects?

The policy objectives are to encourage the uptake of small scale generation as part of the portfolio approach to meeting the 2020 renewables target. The intended effects are to enable householders and smaller scale investors to engage directly in the transition to a low carbon economy and to develop the supply chain. These need to be done in a way that is cost-effective and achievable within current spending limits.

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

2 options have been considered in this IA:

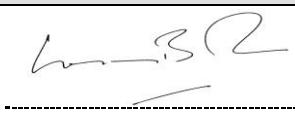
(i) Do Nothing – leaving current policy unchanged, and degressing tariffs by around 9% as originally planned.

(ii) Reduce tariffs on 1 April 2012 for installations with an eligibility date on or after 3rd March 2011, set multi-installation tariffs as 80% of the relevant single installation tariff, and introduce an Energy Efficiency requirement set at EPC level D for installations to receive standard tariffs.

This IA sets out the costs and benefits relating to the decisions on solar PV tariffs and eligibility requirements set out in the Government Response to the FITs consultation for solar PV published alongside this IA. It does not consider the impact of the proposals set out in the consultation on Phase 2 of the Comprehensive Review of the FITs scheme, which are set out in a separate IA.

Will the policy be reviewed? It will be reviewed. **If applicable, set review date:** Ongoing

Does implementation go beyond minimum EU requirements?			**N/A**		
Are any of these organisations in scope? If Micros not exempted set out reason in Evidence Base.	**Micro Yes**	**< 20 Yes**	**Small Yes**	**Medium Yes**	**Large Yes**
What is the CO2 equivalent change in greenhouse gas emissions? (Million tonnes CO2 equivalent)			**Traded: 45**	**Non-traded:**	

I have read the Impact Assessment  Date: 08/02/2012

Summary: Analysis & Evidence

Policy Option 2

Description: Preferred Option 2: Reduction in PV tariffs from 1 April 2012, for new installations from 3rd March 2012; separate multi-installation tariff set at 80% of standard tariffs; energy efficiency requirement of EPC level D or above.

FULL ECONOMIC ASSESSMENT

Price Base Year 2011	PV Base Year 2011	Time Period Years 35	Net Benefit (Present Value (PV)) (£m)		
			Low: 600	High:1100	Best Estimate: 1000

COSTS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	n/a			800
High	n/a			2000
Best Estimate	n/a			1200

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

The costs of this measure are the monetised cost of purchasing EUAs in this sector. These are positive because the lower PV deployment under this option compared with 'Do nothing' will lead to higher carbon emissions. The range reflects different deployment scenarios due to uncertainty about future take-up.

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

Costs for investors of demonstrating that property meets the energy efficiency requirement e.g. cost of obtaining EPC certificate, time costs associated with doing EPC assessment.

BENEFITS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	n/a			1500
High	n/a			3100
Best Estimate	n/a			2200

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

The benefits relate to the savings associated with reducing generation from solar PV compared with 'do nothing' case, which has higher PV deployment. This reduces the resource cost of this option.

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

Other benefits include lower scheme administration costs due to lower PV deployment; additional emissions savings and savings on energy bills as a result of increased uptake of energy efficiency measures driven by the energy efficiency requirement; the development of a supply chain offering households a wide range of cost effective measures to lower their energy use and carbon emissions. Any costs or benefits associated with balancing have not been included.

Key assumptions/sensitivities/risks **Discount rate (%)** 3.5

Significant uncertainty as to costs and uptake of PV going forward, demonstrated through using sensitivity analysis on different deployment scenarios. There is also uncertainty of the impact of the energy efficiency requirement for eligibility of higher tariffs, which is assumed to dampen demand in the first two years of the new tariffs. Other key assumptions are PV module and installation costs and fossil fuel prices and carbon prices going forwards.

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BUSINESS ASSESSMENT (Option 2)

Direct impact on business (Equivalent Annual) £m:			In scope of OIOO?	Measure qualifies as
Costs:	Benefits:	Net:	No	In/Out/Zero Net Cost

Evidence Base

A: Strategic overview

1. A new system of feed-in tariffs (FITs) was introduced in Great Britain on 1 April 2010 to incentivise small scale (up to 5MW), low carbon electricity generation. This small scale FITs scheme works alongside the Renewables Obligation (RO), which is the primary mechanism to incentivise deployment of large-scale renewable electricity generation. These, together with the Renewable Heat Incentive (RHI), Renewable Heat Premium Payment and the Renewable Transport Fuels Obligation are needed to incentivise uptake of renewable energy technologies to meet the UK share of the EU renewable target of 15% renewable energy by 2020.

2. FITs are intended to promote take up of small scale low-carbon technologies by the public and communities as part of a portfolio approach to renewables and in order to:-

    - empower people and give them a direct stake in the transition to a low-carbon economy;

    - help develop a supply chain that offers households a wide range of cost effective measures to lower their energy use and carbon emissions; and

    - assist in public take-up of carbon reduction measures, particularly measures to improve the energy efficiency of buildings.

3. On 7 February 2011, the Secretary of State announced the start of the first comprehensive review of the FITs scheme. In doing so, he confirmed that the review would assess all aspects of the scheme including tariff levels, administration and eligibility of technologies, and would be completed by the end of the year, with tariffs remaining unchanged until April 2012, unless the review reveals a need for greater urgency.

4. As part of the comprehensive review, the Government gave fast-track consideration to large-scale (over 50kW) and standalone solar PV tariffs (as well as farm-scale anaerobic digestion) in response to evidence of a significant fall in PV costs and unanticipated uptake at this scale.

5. On 31 October 2011 as part of Phase 1 of the review it was announced that the review would incorporate a further consideration of solar PV tariffs in response to evidence of a significant fall in solar PV costs at all scales and higher than anticipated uptake, with a view to making any changes to tariffs on 1 April 2012. It was proposed that installations with an eligibility date between 12 December 2011 and 31 March 2012 would receive current tariffs in that period, and new tariffs thereafter. It was also announced that the review would consider an energy efficiency eligibility requirement for installations attached to or wired to provide electricity to a building, as well as a new tariff for multiple (‘aggregated’) installations that would apply to any solar PV installation where the FIT generator or nominated recipient already owns or receives FITs payments from one or more other PV installations, located on different sites.

Table 1: Proposed solar PV tariffs resulting from the fast-track review and Phase 1 comprehensive review

Table 1: *Current and proposed generation tariffs for solar PV* **Band (kW)**	**Current generation tariff (p/kWh)**	**Proposed individual generation tariff (p/kWh)**	**Proposed multi-installation generation tariff (p/kWh)**
4kW or less (new build)	37.8	21.0	16.8
4kW or less(retrofit)	43.3	21.0	16.8
>4-10kW	37.8	16.8	13.4
>10-50kW	32.9	15.2	12.2
>50-100kW	19	12.9	10.3
>100-150kW	19	12.9	10.3
>150-250kW	15	12.9	10.3
>250kW-5MW	8.5	8.5[1]	8.5[1]
stand alone	8.5	8.5[1]	8.5[1]

6. Following the announcement of the consultation, the rate of PV deployment increased very rapidly, with over 380 MW of small scale (up to 50kW) PV registered on the MCS database over the 6 weeks to 12 December – more than was installed in the preceding 18 months of the scheme (375 MW). This greatly exceeded the scenario modelled in our original Impact Assessment (115 MW). In addition, it has become apparent that capital costs for PV have fallen more quickly than anticipated (see paragraph 14 below), meaning that there is a risk of investor overcompensation even at the tariffs proposed in the consultation. The combination of the surge in uptake prior to 12 December, and the prospect of continued strong uptake even at substantially reduced tariffs will result in increased pressure on the FITs budget.

7. A Judicial Review was filed against the proposal to reduce tariffs for installations with an eligibility date after a reference date, originally proposed to be 12 December. The High Court ruled in December that this approach would be unlawful, and the Court of Appeal upheld this ruling on 23 January. As a precautionary measure, on 19 January the Government laid before Parliament regulations that would reduce the tariffs from 1 April 2012 for solar PV installations with an eligibility date on or after 3 March 2012 to the rates set out in the table above. The Government is seeking permission to appeal to the Supreme Court against the Court of Appeal's ruling, in which case future legislation could be introduced to apply the new tariffs to installations that became eligible for FITs between 12 December 2011 and 2 March 2012, but for the purposes of this Impact Assessment we have assumed that the Court of Appeal ruling stands, and that all installations with eligibility dates before 3 March will receive the current (higher) tariffs.

8. As a consequence, this Impact Assessment sets out the cost benefit analysis of implementation of new tariffs from 1 April 2012 to installations with an eligibility date on or after 3 March 2012. The Phase IIa Impact Assessment published alongside this one sets out costs and benefits of further changes to FITs from 1st July onwards.

[1] These figures will be up rated in line with inflation by OFGEM.

9. Alongside this Phase I Final Impact Assessment, Government is publishing a Phase II draft Impact Assessment (in parts A for Solar PV and part B for non-Solar PV) alongside Phase 2 of the comprehensive review consultation. This Phase I impact assessment provides analysis of the Government response which recommends that tariffs are reduced for new installations from an eligibility date of 3rd March to the levels set out in Table 1 above from 1st April 2012. It also looks at the impact of a requirement that only installations attached or wired to buildings with an Energy Performance Certificate (EPC) of band D or above would be eligible for tariffs above 9p/kwh. This is assessed against the no change scenario set out in section D. The impact assessment for the Phase 2a (solar PV) consultation sets out the impact of proposals for changes to tariffs post April 2012, assuming that Phase I proposals are implemented. It assesses these proposals against a 'no change' scenario, where neither the Phase I nor Phase II proposals were implemented. The Phase IIa IA therefore assesses the full impact of both Phase I and Phase IIa changes.

B: Problem under consideration

10. It is clear (see paragraph 14 below) that costs of PV have fallen much more rapidly than was predicted at the start of the scheme. This has led to much stronger take-up than was envisaged, risking the affordability of the entire FITs scheme. The issue is what are the appropriate new levels of the PV tariffs in future, and what are the likely implications of these on costs to consumers and the economy, impact on investors and the PV market, and on DECC budgets and affordability assessments. This impact assessment considers these issues.

C: Rationale for intervention

11. From its establishment in April 2010, the FITs scheme was intended to encourage deployment of additional small scale low carbon electricity generation, particularly by individuals, householders, organisations, businesses and communities who have not traditionally engaged in the electricity market. For these investors, delivering a mechanism which is easier to understand and more predictable than the Renewables Obligation, as well as delivering additional support required to incentivise smaller scale and more expensive technologies, were the main drivers behind the development of this policy.

12. In choosing the range of technologies supported by FITs, the focus was on small-scale low-carbon electricity with the primary intention of supporting the widespread deployment of proven technologies now and up to 2020, rather than to support development of unproven technologies. PV was seen as a well developed technology that could be deployed at scale in domestic, community and small business settings. While it was a relatively high cost technology, it has broad public acceptance, can be easily incorporated into the built environment and generally does not require expensive grid connection or reinforcement costs. Whilst at the time PV was a higher cost technology in meeting the RES targets, it was also seen as having the potential to drive consumer and small business engagement in renewable technologies. Another desirable impact was for FITs to drive down costs in the UK supply chain of Solar PV technologies. Because carbon prices are not high enough to incentivise solar PV in the short and medium term, government intervention is necessary to incentivise the private sector to invest in this technology in the timescales needed to meet the 2020 Renewables target. In the light of new evidence on costs and uptake, this IA assesses the latest evidence on the appropriate levels of tariffs in July 2012 needed to meet the objectives of the scheme, whilst meeting budgetary constraints as set out in DECCs levy control envelope. This IA also looks at additional FITs mechanisms including the energy efficiency requirement, multi-installation tariffs, tariff degression mechanisms and shortening of tariff lives.

Analysis

Background on costs and deployment

13. Since the introduction of FITs, all evidence shows that costs of solar PV have fallen far more rapidly than originally projected, and uptake has consequently been far higher. At the time the consultation was launched (31 October 2011), the number of new small scale (up to 50kW) PV installations each month was growing by around 25%, and total PV installed capacity was almost 350 MW (end September figures, the latest available at the time). This was 2.5 times greater than the original estimate of 140 MW in the first two years of the scheme. Between the launch of the consultation and the proposed 12 December reference date, the installation rate increased very rapidly, with over 380 MW of new small scale (up to 50kW) installations being registered on the MCS database, taking the total to nearly 900 MW and exceeding the projections for total deployment by 2014. Table 2 below sets out deployment to date based on latest available data.

Table 2: Estimates of PV deployment to 29th January 2012

Solar PV Installations to 29th January 2012[2]		
Band	Deployment (MW)	Number of installations
<4kW	640	230,000
4-10kW	40	5,000
10-50kW	90	3,000
50kW+	160	3,000
Total	940	240,000

14. Research carried out for DECC by PB / CEPA in September 2011 and published alongside the consultation on 31 October 2011 suggested that PV installation costs had fallen by at least 30% between the launch of the scheme and Autumn 2011. This meant that current tariffs were leading to typical rates of return for investors well in excess of the 5% the tariffs were intended to deliver (see table 10 for a full set of estimates). Additional evidence received by DECC during the consultation period, and updated research by PB for DECC in January 2012 suggests that PV installation costs have in fact fallen by an even greater extent, with a typical domestic installation costing 45% less to install in 2011 compared with originally estimated in 2009. There have also been significant falls in larger scale PV, with latest cost estimates putting a 350kW installation 70% cheaper than original Element estimates.

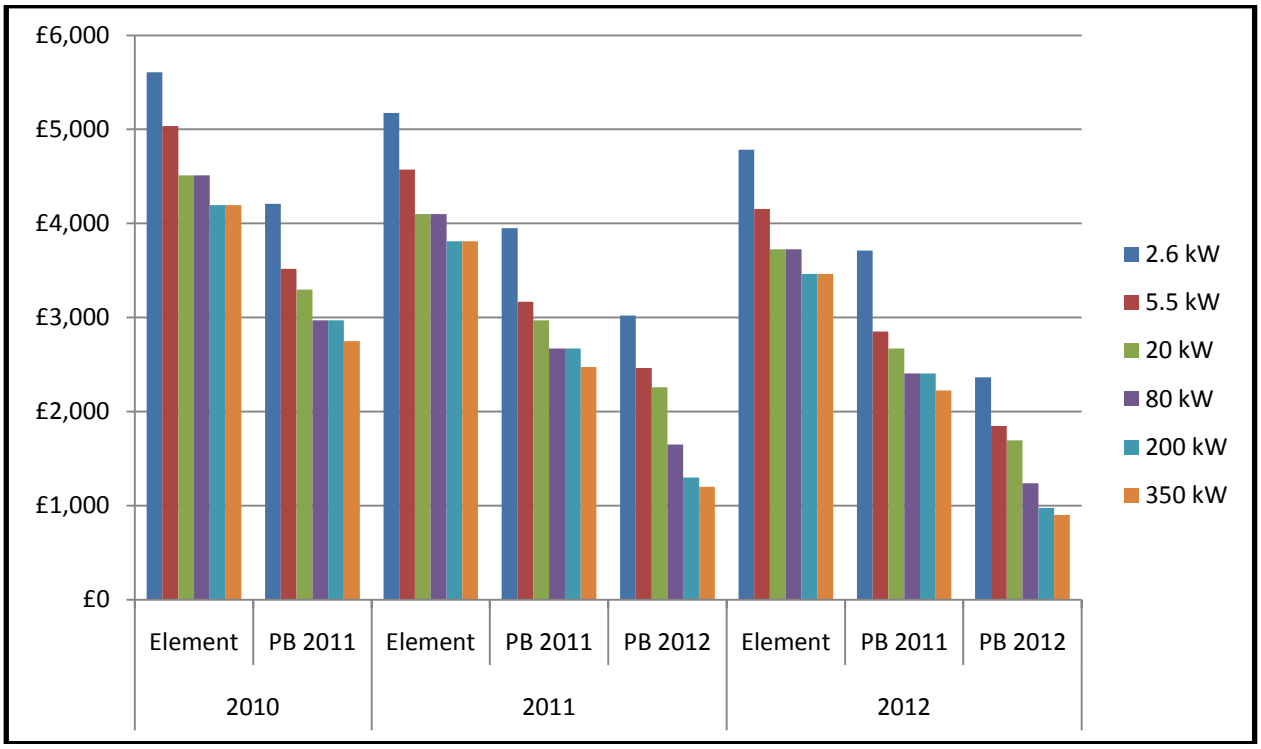
[2] Solar PV installations receiving FITs payments are registered on OFGEMs Central FITs Register (CFR). In addition, data for <50kW installation only are available directly from the Microgeneration Certification Scheme (MCS) database. An installation will appear on the MCS before it appears on the CFR, and so MCS data are used to get the best estimate of deployment to date for <50kW installations. The total PV capacity registered on the MCS database was 780 MW on 29th January. However, evidence suggests that 10% of installations registered on the MCS database are never transferred to the CFR, and therefore do not become eligible for FITs. When estimating the costs of the scheme, we therefore reduce the capacity of installations registered on the MCS by 10%. This adjustment is not made to the figures presented in Table 2.

Table 3: Comparison of central estimates of total capital costs of PV installations in 2010, 2011 and 2012, comparing consultants data from Element Energy 2009, PB September 2011 and PB January 2012

Type of installation	Size of installation (kW)	Capital cost of PV installation in 2012 prices (£k)							
		Element 2009			PB September 2011			PB January 2012	
		2010	**2011**	**2012**	**2010**	**2011**	**2012**	**2011**	**2012**
Building Mounted	2.6	£15	£13	£12	£11	£10	£10	£8	£6
	5.5	£28	£25	£23	£19	£17	£16	£14	£10
	20	£90	£82	£74	£66	£59	£53	£45	£34
	80	£361	£328	£298	£237	£214	£192	£132	£99
	200	£839	£762	£693	£594	£534	£481	£260	£195
	350	£1,468	£1,334	£1,212	£962	£866	£779	£420	£315
Standalone	200	£839	£762	£693	£550	£495	£445	£240	£180

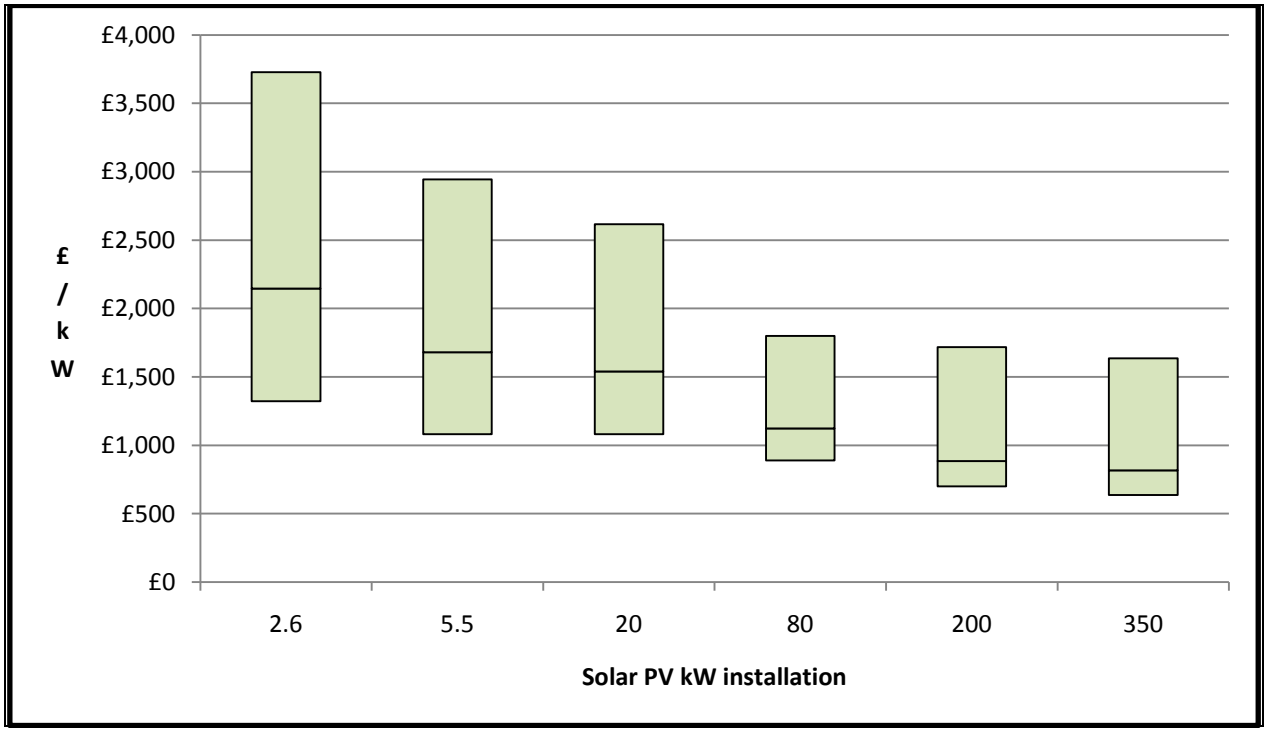
Source : January 2012 PB PV report and DECC analysis

Chart 1: Comparison of central estimates of capital costs of PV installations 2010 to 2012, £/kW



15. As well as providing new central estimates, PB have increased the range of their low and high estimates, reflecting both the heterogeneity in PV costs in the market and greater uncertainty at this time. Chart 2 compares high, medium and low £/kW assumptions for Solar PV installations in December 2012. Each green bar represents the range of variable costs, with the black line showing the medium estimate.

Chart 2: PB assumptions for £/kW of Solar PV installations in 2012 comparing high, medium and low cost assumptions[3]:



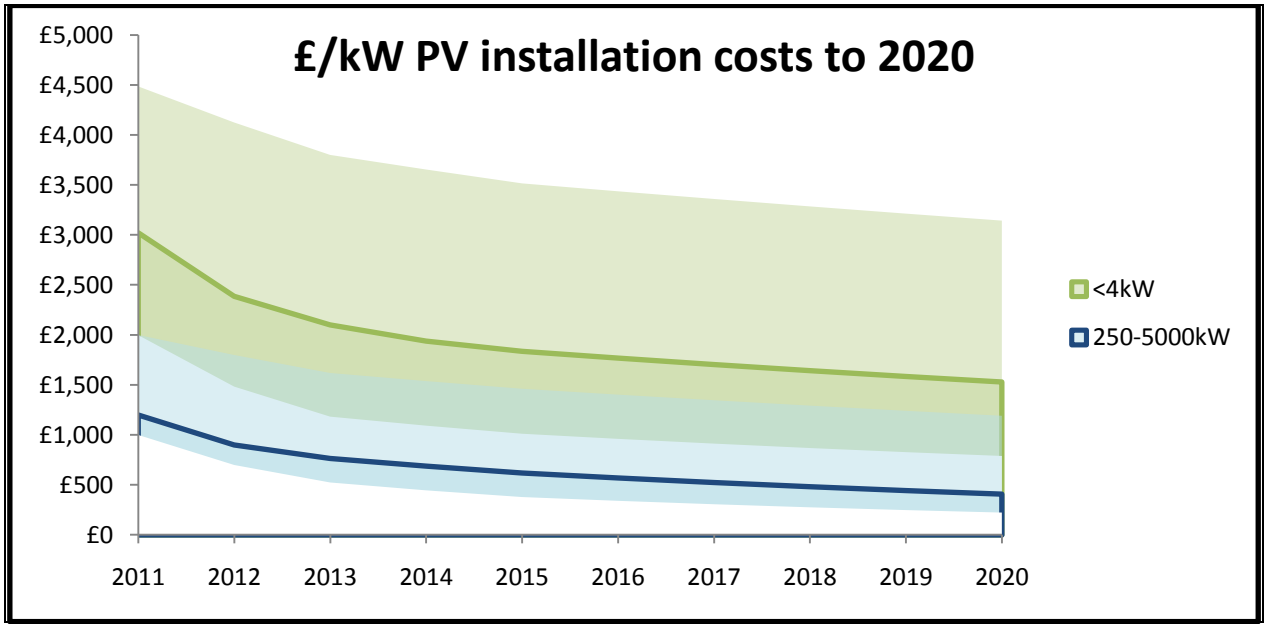
16. The PB power January 2012 report states that PV costs are expected to continue falling over the coming year, but there exists significant uncertainty over how rapid this will be. The largest single contributor to installation costs are the PV panels, whose price reflects global developments, particularly in China. The latest PB update therefore models three scenarios for future cost reductions, with cost reductions in 2012 of 30%, 25%, and 10% under the low, central, and high scenarios respectively. Table 4 below sets out the variable cost reduction assumptions for a <4kW installation in the Low, Medium and High scenarios. Chart 3 shows these costs over time, and includes the fixed element for a <4kW installation, assuming a 2.6kW installation.

Table 4: Projected reductions in variable costs of PV installations to 2020 from January 2012 PB report, comparing high, medium and low cost assumptions:

£2012 prices		Jan -2012 £/kW	Annual % real reduction in PV installation costs									Dec-2020 £/kW
			2012	2013	2014	2015	2016	2017	2018	2019	2020	
<4kW[3]	Low	£1,716	30%	25%	10%	10%	7%	7%	7%	7%	7%	£508
	Medium	£2,542	25%	15%	10%	7%	5%	5%	5%	5%	5%	£1,050
	High	£3,606	10%	10%	5%	5%	3%	3%	3%	3%	3%	£2,264
250-5000kW	Low	£1,000	30%	25%	15%	15%	10%	10%	10%	10%	10%	£224
	Medium	£1,200	25%	15%	10%	10%	8%	8%	8%	8%	8%	£408
	High	£2,000	10%	10%	5%	5%	4%	4%	4%	4%	4%	£1,192

[3] This table and chart includes the variable £/kW element of <4kW installation costs only. Costs of <4kW installations include a fixed element of cost. The fixed element is relatively minor in total costs compared to the variable element. 4kW + installations have variable cost elements only. These assumptions are fully set out in the January 2012 PB PV update report published alongside this IA.

Chart 3: high to low range of £/kW costs assumptions of <4kW and 250-5000kW installations to 2020 based on January 2012 PB PV update report[4]



Budget Considerations

17. The 2010 Spending Review set an overall cap for all of DECC's tax and spending through policies that entail levy-funded spending (currently FITs, RO and WHD). This cap is managed though the levy control framework (LCF).

18. DECC is expected to set policy such that the central forecast for DECC levy-funded spending is equal to or less than the agreed cap. However, recognising the inherent difficulty of managing demand-led levy-funded policies, the Treasury have agreed at the outset a range of acceptable headroom above the cap, initially set at 20% of the total levies cap, which will represent the level of permissible variation before DECC has to develop urgently plans for bringing policies back into line with the cap. DECC is able under the LCF to maintain the levy-funded spending within the acceptable headroom so long as the additional spend is not the result of intended policy changes and an agreed plan for addressing the overspend is in place.

19. Where spend exceeds or is projected to exceed the range of acceptable headroom, DECC must rapidly agree with the Treasury a plan for bringing spending back down to the agreed profile. This plan will set out the adjustments that DECC proposes to make to its policies to reduce their spend, and the impact by year of taking action. The absence of an effective plan in this situation could ultimately result in the Treasury refusing DECC permission to retain all or part of the tax income received above the agreed cap, which would leave DECC to fund all or part of the spending gap from within its Departmental Expenditure Limit.

20. Based on projections developed at the time of the Comprehensive Spending Review, the overall LCF cap was split between FITs, the Renewables Obligation, and the Warm Home Discount as shown in the table below. DECC has to manage these policies so as to meet the overall levy control envelope as described above, but has flexibility to adjust the budgets for each policy within the overall cap, subject to continuing to meet policy objectives and value for money considerations.

[4] Table 4 contains the variable element of £/kW costs only. In chart 3, to get an accurate impression of marginal installation costs of PV installations, the fixed element is applied to variable costs assuming a reference installation size of 2.6kW.

Table 5: Feed in Tariffs budget for Spending Review period

Budget (nominal, undiscounted, £m)	**2011-12**	**2012-13**	**2013-14**	**2014-15**	**CSR period**
Feed in tariffs – all technologies	94	196	328	446	1,064
RO Spending Review Envelope[5]	1,750	2,156	2,556	3,114	9,576
Warm Home discount	250	275	300	310	1,135
Total levies control envelope	2,094	2,627	3,184	3,870	11,775

21. DECC has developed a model that estimates the costs incurred by installations installed during 2011-12 (using a combination of data from Ofgem and the MCS register). This impact assessments considers data including PV installations to 8 January 2012, and in order to make an estimate of costs for the full year, makes assumptions about additional deployment that will occur to the end of March 2012. This is subject to considerable uncertainty and depends how the market develops in the light of the final outcome of the Judicial proceedings, continuing cost reductions, and proposed new tariffs to apply to installations from 3 March. To take account of the continued state of flux, we have developed 3 scenarios for possible uptake in the period January-March 2012. These are shown below:

Table 6: Actual / potential PV deployment per month Oct 2011 to March 2012 (MW)[6]

Deployment per month, MW	**Oct 2011**	**Nov 2011**	**Dec 2011**	**Jan 2012**	**Feb 2012**	**Mar 2012**	**Total capacity end Mar 2012**
	Actual			Projections			
Central	58	165	175	25	250	125	1,300
High				25	350	175	1,400
Low				15	160	70	1,100

22. These scenarios would lead to the following subsidy costs for PV installations over the Spending Review period (2011/12 to 2014/15). The table shows that projected costs just for installations to end of March 2012 would exceed the FITs budget in almost all years of the Spending Review period. Any overspends, and budget for any new deployment beyond March 2012, relies on underspends being available or generated from other schemes that fall within the LCF (the RO and WHD) *and accessing, as a last resort and with the agreement of the Treasury, the headroom facility that has already been agreed in principle with HMT.*

[5] The FITs and RO budget lines have been adjusted from those published at the time of the spending review to account for overlap between the two schemes, where generating stations below 5MW can choose to accredit against the RO or FITs. This is purely a technical adjustment in order to provide a more accurate picture of the spending limits for each policy, and has no impact on the total amount of subsidy available for these levies schemes. It should also be noted that the size of this overlap is not fixed, as it depends on how generators choose to accredit; the calculation may therefore be revisited in future.

[6] These figures differ slightly from those recently published in the Governments response to question 1of the FIT's consultation comprehensive review phase 1 due to updated population data since publication.

Table 7: Estimated subsidy costs associated with PV installations to end March 2012[6]

£m	£m, nominal, undiscounted					£m, real, discounted
	2011/12	2012/13	2013/14	2014/15	CSR	Lifetime
Central	£140	£455	£470	£485	£1,550	£6,975
High	£145	£505	£520	£540	£1,710	£7,730
Low	£135	£400	£415	£430	£1,385	£6,190

23. This Phase 1 impact assessment sets out the costs for installations that could come forward after March 2012 under the new tariffs proposed in April 2012. The Phase 2a draft impact assessment analyses the impact of options for further degressing tariffs beyond April 2012 as proposed in the Phase 2 consultation.

D. Options under consideration

24. Options considered here are:

(i) **Option 1: 'Do nothing'** – which attempts to set out what would have happened in the absence of any review. It is assumed that tariffs for solar PV would have degressed by around 9% from 1 April 2012 as originally planned.

(i) **Option 2:** Tariffs as in Table 1 above introduced in April 2012 for installations with an eligibility date on or after 3 March 2012; all installations (excluding non-domestic buildings that are unable to get an EPC) will be required to meet energy efficiency requirement of EPC at band D or above to receive standard tariffs; multi-installation tariff set at 80% of standard tariffs for generators with more than 25 PV installations.

Methodology

25. In order to estimate the impact of tariff changes, the modelling has been carried out using a two stage approach:
    a. PV deployment to 31 March 2012 is estimated drawing on experience of deployment to date, in particular around the proposed 12 December reference date. Three scenarios for deployment and costs to 31 March are set out in Tables 6 and 7 above.

    b. To this starting point we apply annual rates of growth for solar PV uptake and costs from April 2012 onwards that are projected by the DECC FITs model. The model estimates uptake and costs under the option 1 and option 2 tariff structures. The FITs model has been updated with the latest estimates from PB Power for PV installation costs going forward.

26. Following the methodology set out above, the 'do nothing' scenario has been estimated in 2 stages. The first stage was to estimate the level and costs of PV deployment that would have taken place to end March 2012 if tariffs had remained unchanged. In April 2012, under existing policy and given that a comprehensive review would not have taken place, the Government would have reduced tariffs in line with available cost information. This in itself may have lead to a rush like that observed in December 2011. In the four months to October 2011, installed PV capacity was growing by around 20% per month. However, it is likely that the installation rate would have increased in the run up to April 2012, given market expectations that tariffs would be reduced from that point. As a central scenario we

have therefore assumed that installed capacity would continue growing by 20% per month until January, increasing to 50% in February and March; the high scenario assumed that growth rates would be 50% a month in January, February and March. Deployment and the costs for installations until the end of March 2012 assumed under the no change scenarios is given in tables 8 and 9 below.

(i) Option 1: Do Nothing

27. In order to compare the costs and benefits of setting lower tariffs, we need an estimate of what would have happened in the absence of intervention at this stage. This is difficult to assess with any certainty because it is trying to construct a situation that Government already moved away from through the publication of the phase 1 consultation on FITs for PV on 31 October 2011.

28. Following the methodology set out above, the 'do nothing' scenario has been estimated in 2 stages. The first stage was to use the DECC model of pipeline installations to predict the level of installations that would have been deployed to end 2012 if tariffs had remained unchanged. In the four months to October 2011, installed PV capacity was growing by around 20% per month. However, it is likely that the installation rate would have increased in the run up to April 2012, given market expectations that tariffs would be reduced from that point. As a central scenario we have therefore assumed that monthly capacity growth would continue at 20% until January and increase to 50% in February and March; the high scenario assumed that growth rates would be 50% a month in January, February and March. Deployment and the costs for installations until the end of March 2012 assumed under the no change scenarios is given in tables 8 and 9 below.

Table 8: PV deployment per month Oct 2011 to March 2012 (projected) MW – No Change Scenario

Deployment per month, MW	Oct 2011	Nov 2011	Dec 2011	Jan 2012	Feb 2012	Mar 2012	Total capacity end Mar 2012
	Actual	Projections					
Central	60	70	80	100	290	440	1,510
High				240	370	550	1,840
Low				100	210	280	1,260

Table 9: Estimated subsidy costs associated with PV installations to end March 2012 – no Change scenario

£m	£m, nominal, undiscounted					£m, real, discounted
	2011/12	2012/13	2013/14	2014/15	CSR	Lifetime
Central	£ 140	£ 580	£ 600	£ 620	£1,940	£8,890
High	£ 150	£ 710	£ 740	£ 760	£2,370	£10,890
Low	£ 130	£ 480	£ 500	£ 520	£1,630	£7,380

29. The Feed in tariff model was used to model the growth in PV costs and deployment levels for the no change scenario post March 2012, assuming tariffs remained unchanged until 1 April 2012, and then degressed by around 9% a year. Table 9 below sets out the return on investment (RoI) estimated to result from original tariffs, assuming PB power central capital and operating cost assumptions from January 2012. These rates of return are much higher than the returns envisaged at the start of the scheme, with smaller installations achieving a

return on investment of over 20% under the low CapEx scenario. These high RoIs, due to lower than expected costs, explain why uptake is higher than was previously envisaged. The Feed in Tariff model, which now includes these lower costs, results in much higher assumed PV take up than was initially estimated.

Table 10: Estimated Return on Investment with pre-consultation tariffs using PB's January 2012 Solar PV data.

ROI with January 2012 PB assumptions, current tariffs, April 2012 installation				
Band	Tariff (p)	Low CapEx	Medium CapEx	High CapEx
4kW or less(retrofit)	43	23%	15%	8%
>4-10kW	38	24%	16%	9%
>10-50kW	33	21%	15%	9%
>50-100kW	19	17%	13%	9%
>100-150kW	19	17%	13%	9%
>150-250kW	15	18%	14%	7%
>250kW-5MW	9	13%	10%	4%
stand alone	9	8%	6%	1%

30. The levels of deployment (Table 11) and costs and benefits (Table 12) of Option 1 'Do nothing' under these assumptions are set out below. These relate to all installations we might have expected during this period. Costs and benefits are in 2011 prices and are discounted. ***Please note that as subsidy costs are in real discounted terms they cannot be directly compared to the levy control framework budget, which is in nominal undiscounted terms. Nominal undiscounted estimates are set out in Annex 1 attached.***

Table 11: Deployment assumed under Option 1: 'Do Nothing' – all PV installation

	2011-12	2012-13	2013-14	2014-15	2020-21
Central Deployment Scenario					
Installed capacity (MW)	1,500	3,000	4,900	7,600	39,000
Generation in year (GWh)	340	2,000	3,600	5,600	31,000
Number of installations (from April 2012)		368,000	830,000	1,430,000	7,739,000
High Deployment Scenario					
Installed capacity (MW)	1,800	3,600	6,000	9,300	47,000
Generation in year (GWh)	380	2,500	4,300	6,900	38,000
Number of installations (from April 2012)		449,000	1,012,000	1,744,000	9,433,000
Low Deployment Scenario					
Installed capacity (MW)	1,300	2,500	4,100	6,400	32,000
Generation in year (GWh)	330	1,680	2,960	4,700	26,000
Number of installations (from April 2012)		307,000	692,000	1,192,000	6,452,000

Table 12: Costs and Benefits of Option 1: 'Do Nothing' – all PV installations

(a) Central Deployment Scenario

Financial Year (£m, 2011 prices, discounted to 2011)	2011-12	2012-13	2013-14	2014-15	2020-21	Lifetime
Resource costs	130	290	340	370	260	6,200
Value of Carbon Benefits	0	10	20	30	270	5,700
NPV Cost(-), benefit (+)	- 130	- 280	- 320	- 340	0	- 500
Cost to consumers	140	760	1,200	1,700	4,970	94,400

(b) High Deployment Scenario

Financial Year (£m, 2011 prices, discounted to 2011)	2011-12	2012-13	2013-14	2014-15	2020-21	Lifetime
Resource costs	150	350	420	460	320	7,600
Value of Carbon Benefits	0	10	20	40	320	7,000
NPV Cost(-), benefit (+)	- 150	- 340	- 390	- 410	0	- 600
Cost to consumers	150	930	1,460	2,050	6,100	118,000

(c) Low Deployment Scenario

Financial Year (£m, 2011 prices, discounted to 2011)	2011-12	2012-13	2013-14	2014-15	2020-21	Lifetime
Resource costs	100	240	290	310	220	5,200
Value of Carbon Benefits	0	10	20	30	220	4,800
NPV Cost(-), benefit (+)	- 100	- 230	- 270	- 280	0	- 400
Cost to consumers	130	600	920	1,280	3,820	74,200

31. The lifetime figures are the lifetime costs of all PV installations to 2020-21. Under this option there is strong growth of PV to 2020 - under the central scenario deployment is estimated to grow to 7 to 8 million additional (post March 2012) installations by 2020. The lower capital and operating costs of PV over time are reflected in the falling resource costs.[7] After 2012 resource costs fall quickly, leading to a positive NPV for PV in the later years. However, over the policy lifetime, costs are still higher than benefits..

32. This option maintains the current Feed in Tariff regime, despite the lower resource costs. Thus subsidy costs also grow rapidly, with extremely high subsidy costs (the costs of the tariff) over the lifetime of the policy. This shows that under current tariffs the FIT scheme would be highly inefficient (with subsidy costs well in excess of resource costs), and give extremely high rents to recipients of the scheme.

(ii) Option 2: Introduce new tariffs in 1 April 2012 for installations with an eligibility date on or after 3 March 2012. Introduce an energy efficiency requirement for new installations with an eligibility date on or after 1 April 2012

33. The solar PV consultation had three proposals intended to (a) address the budgetary risks around higher than anticipated solar PV uptake, as well as the risk of overcompensation of

[7] Resource cost are defined as the cost of generating PV in comparison with cost of fossil fuel generation (estimated by the wholesale price of electricity – used UEP assumptions Oct 2011).

investors and lack of value for money for consumers, and (b) strengthen the link between FITs and energy efficiency. This IA sets out the costs and benefits of changing the tariff at 1 April 2012 only, in line with the government consultation on this at 1 November 2011.

34. The proposed tariffs set out in the consultation document aimed to provide an approximate 5% real[8] rate of return for well located installations, the target return for FITs when the scheme started.[9] The one exception is the tariff for installations up to 4kW, the scale most commonly used for domestic PV installations. The proposed tariff for this band was intended to deliver an approximate 4.5% rate of return for a well located domestic PV installation. The updated January 2012 PB evidence suggests that, in the central case rates of return being achieved is higher than those predicted, and therefore uptake is likely to be higher than we anticipated in November 2011. Their evidence also showed that there is a wide variation in costs, so that the distribution of ROIs for a given installation size is now also much wider. These are shown in Table 12 below.

Table 13: Estimated Return on Investment with proposed April 2012 tariffs using PB's January 2012 Solar PV data.

Estimated ROI with January 2012 PB assumptions, April proposed tariffs, April 2012 installation				
Band	Tariff	Low CapEx	Medium CapEx	High CapEx
<4kW	21.0	13%	7%	3%
4 - 10kW	16.8	12%	7%	3%
10 - 50kW	15.2	11%	7%	3%
50 - 150kW	12.9	12%	10%	6%
150 - 250kW	12.9	16%	13%	6%
250 - 5000kW	9.0	14%	11%	4%
Standalone	9.0	9%	6%	1%

35. Given updated evidence on costs, in particular the wide range of costs currently being experienced by solar PV installations, it is clear that a given tariff will also produce a range of rates of return depending on the particular characteristics of the installation (load factors, bill savings etc) and the costs that are achieved in practice. Therefore, while it is useful to use estimated ROIs for given tariffs as a reference, it is not appropriate to set a 'target' return that policy should aim for.

36. The estimates of costs and deployment for Option 2 are again derived using the 2 stage methodology described above, with the different deployment scenarios stemming from the deployment scenarios set out in Table 6 above. They are based on the costs until end March 2012 from the DECC pipeline model, combined with estimated growth rates in PV deployment and costs taken from the DECC Feed in Tariff model.

37. In the modelling for this option , tariffs were set as in Table 1 above, and remain at those levels in real terms. Costs and deployment therefore continue to grow strongly, as. It is not the Government's intention that the PV tariffs should remain at the rates in Table 1 in this

[8] A real rate of return is one that takes account of inflation.

[9] The Impact Assessment supporting the introduction of the FITs scheme (published in February 2010) stated that, "PV tariff levels provide an approx 5% ROI given that PV is easier to deploy than other technologies and carries less risk to the investor since it is a tried and tested technology. In setting a 5% ROI for PV, the relatively high generation cost of PV (measured through a £/MWh cost-effectiveness metric) and the potential impact of this on overall scheme costs and hence energy bills has also been taken into account."

manner, but that they will degress over time as costs are expected to fall. The impact of future degression is set out in the impact assessment attached to Phase 2a consultation.

Energy Efficiency Requirement

38. The November consultation set out the Government proposal to make eligibility for the new tariffs conditional on meeting an energy efficiency requirement for all PV installations (attached to or wired to provide electricity to a building) with an eligibility date on or after 1 April 2012. The consultation suggested two possible forms the requirement might take, a) requiring the property to be brought up to Energy Performance Certificate (EPC) Level C or above, and b) requiring the property to require all measures identified as being eligible for Green Deal financing. It specified that if the FIT generator could not demonstrate that the building meets a certain level of energy efficiency, the installation would be eligible for a lower tariff of 9p/kWh for the whole of the tariff lifetime. This 9p/kWh level is broadly equivalent to two Renewables Obligation Certificates (based on 2012-13 costs). This is the level of support available under the Renewables Obligation to offshore wind, which is currently considered to be the marginal technology required to deliver the UK's 15% renewable target cost effectively.

39. The Government response to the consultation document suggests an energy efficiency requirement set at level 'D' or above should apply, taking account of concerns that a requirement at level C could preclude the majority of households from FIT eligibility above the FIT support for stand-alone tariffs[10], and that a measure linked to the Green Deal would continue uncertainty if view of the later timing of this scheme.

40. The Government response to the consultation also states that generators who can demonstrate that it is not possible for the building to which their solar PV installation is attached or wired to provide electricity to obtain an EPC certificate will be exempt from the energy efficiency requirement. Such buildings will typically be those that do not use energy to 'condition' (i.e. to heat or cool) the indoor climate. We expect that instances in which this exemption will apply will be very limited, as in the large majority of cases at least one of the buildings to which a PV installation is wired will be able to obtain an EPC.

41. In order to assess the impact of introducing this requirement, we need to make some assumptions about the impact of this on take-up. For properties already at or above this rating there will be no impact. For properties below this, there will be an additional cost of taking measures to move to this level. Evidence suggests that level D is relatively easy to achieve, so the impact on take-up of FITs could be relatively modest, particularly in the longer term as the proportion of properties in this band rises and householders are incentivised to install such measures.

42. Estimates based on English Household Survey data suggest that the proportion of houses currently at or above Band D is just under 50%, while slightly more non-domestic building were at this level. Using this as a base, we have assumed that the potential dampening effect of this requirement is 40% in 2012/13, 25% in 2013/14 and none in 2015/16. The dampening effect is assumed to fall steeply over this period reflecting the fact that level D is relatively easy to meet, and that FITs should encourage take-up of these measures.

43. This IA only considers the costs of electricity generated under the FITs scheme. The additional costs of meeting the energy efficiency requirement e.g. cost of obtaining an EPC certificate (both in terms of time and money) are not considered here. In addition, we do not quantify the benefits of any reduction in the variable administration costs of the FITs

[10] This is currently 8.5p. This will be uprated by OFGEM in line with inflation. The Phase 2 consultation released alongside this IA consults on further changes to these rates.

scheme linked to a change in solar PV uptake, or the benefits to households of reduced electricity bills and carbon savings through the installation of energy efficiency measures.

44. The costs and benefits of this option and associated deployment is shown Tables 14 and 15 below.

Table 14: Deployment scenarios assumed under Option 2

	2011-12	2012-13	2013-14	2014-15	2020-21
Central Deployment Scenario					
MW	1,300	1,900	3,000	5,200	30,000
GWh	350	1,400	2,200	3,700	25,000
Additional Capacity post 1st April 2012 (MW)		600	1,700	3,900	29,100
Additional Installations post 1st April 2012		140,000	400,000	860,000	5,800,000
High Deployment Scenario					
MW	1,400	2,100	3,400	5,800	34,000
GWh	360	1,600	2,400	4,100	27,400
Additional Capacity post 1st April 2012 (MW)		700	2,000	4,400	32,600
Additional Installations post 1st April 2012		160,000	450,000	960,000	6,510,000
Low Deployment scenario					
MW	1,100	1,600	2,600	4,500	27,000
GWh	340	1,200	1,900	3,200	21,500
Additional Capacity post 1st April 2012 (MW)		500	1,500	3,400	25,500
Additional Installations post 1st April 2012		120,000	350,000	750,000	5,000,000

45. The tariffs as proposed lead to strong growth post 2012, as the tariff remains fixed in tral terms, and PV costs decline. Costs are lower than in the do nothing option, in particular in the central and high scenarios. However these estimates do not give the full picture, as they do not take into account degression post April 2012.

Table 15: Costs and Benefits of Option 2

(a) Central Scenario

Financial Year (£m, 2011 prices, discounted to 2011)	**2011-12**	**2012-13**	**2013-14**	**2014-15**	**2020-21**	**Lifetime**
Resource costs	110	220	240	260	160	4,000
Value of Carbon Benefits	0	10	10	20	210	4,500
NPV	-100	-210	-230	-240	50	400
Cost to consumers	140	470	570	750	2,840	54,300

(b) High Scenario

Financial Year (£m, 2011 prices, discounted to 2011)	2011-12	2012-13	2013-14	2014-15	2020-21	Lifetime
Resource costs	120	250	270	290	180	4,500
Value of Carbon Benefits	0	10	10	30	230	5,000
NPV	-120	-240	-260	-270	50	500
Cost to consumers	150	520	630	830	3,150	60,300

(c) Low Scenario

Financial Year (£m, 2011 prices, discounted to 2011)	2011-12	2012-13	2013-14	2014-15	2020-21	Lifetime
Resource costs	90	190	210	240	150	3,700
Value of Carbon Benefits	0	10	10	20	180	4,000
NPV	-90	-190	-200	-220	30	200
Cost to consumers	140	410	500	660	2,520	48,000

Summary – comparison with Option 1 'do nothing'

46. Tables 12 and 15 presents the total cost of the 2 policy options, showing the total PV deployment, resource and subsidy costs as compared with not intervening in the electricity market and meeting electricity demands under fossil fuel generation. However, in order to assess the Option 2 against leaving current FIT policy unchanged, we also need to compare the costs and benefits of this with the 'do nothing' option. This gives the impact of moving away from current policy, the costs and benefits of which are shown in the summary sheet of the IA. These are also given in Table 16 below.

Table 16: Comparison of Preferred Option against Option 1: 'Do nothing'

Lifetime, (£m, 2011 prices, discounted to 2011)	Option 1 – no change			Option 2 – preferred option			Option 2 compared to no change		
	High	Medium	Low	High	Medium	Low	High	Medium	Low
Costs	7,600	6,200	5,200	4,500	4,000	3,700	-3,100	-2,200	-1,500
Benefits	7,000	5,700	4,800	5,000	4,500	4,000	-2,000	-1,200	-800
NPV	-600	-500	-400	500	400	200	1,100	1,000	600

47. The preferred option has a positive net present value (a net benefit) under each of the deployment scenarios because the savings on social costs outweigh the lost in benefits in lower carbon saved. The preferred option is estimated to have a net benefit of around £1bn (real 2011 prices, discounted), compared to the do nothing option of no change to PV tariffs in the central deployment scenario.

Further costs and benefit considerations for solar PV

48. In view of high potential cost impact of solar PV and the associated risk that this could absorb a high proportion of funding from the FITs scheme as a whole, it is important to consider whether there are wider policy justifications for including support for these installations in the FITs scheme. The FITs scheme is designed to promote take up of small-scale low-carbon electricity technologies by the public and communities as part of a portfolio approach to meeting the UK's renewable energy target that must be affordable in the context of the control framework for DECC levy-funded spending and provide value for money to consumers.

49. The FITs scheme is also intended to contribute to other low carbon goals. These wider aims are central considerations in justifying any level of subsidy that is above the cost per unit of energy generated considered necessary to meet the renewable energy target cost-effectively. As stated in paragraph 2 these are to :

    a) empower people and give them a direct stake in the transition to a low-carbon economy;

    b) help develop a supply chain that offers households a wide range of cost effective measures to lower their energy use and carbon emissions; and

    c) assist in public take-up of carbon reduction measures, particularly measures to improve the energy efficiency of buildings.

50. In relation to a) above, engagement with energy generation could lead to behaviour change by individuals and communities in relation to energy use which will further reduce carbon emissions in addition to the reductions brought about by installing PV.

51. With respect. to b), by allowing future solar PV uptake at an affordable level, while still providing attractive rates of return in the current investment climate, FITs will ensure that businesses installing domestic solar PV remain viable at a time when there is spare capacity in the economy which cannot readily be redeployed.

52. In relation to c) by making the higher FITs tariffs conditional on an energy efficiency requirement, this could incentivise households to take up energy efficiency measures sooner than they would otherwise have done, which would lead to greater levels of cost-effective emissions reductions.

Risks and Assumptions

53. The estimates of costs and deployment above are based on a number of key assumptions: PV costs (based on estimates of PV costs from CEPA/Parsons Brinkerhoff[11]); DECC's energy and carbon price projections; assumptions about investor hurdle rates; and assumptions as to how fast the PV industry can grow, both to the end of March 2012, and beyond. PV uptake post April 2012 has used the FITs model, projections from which are based on PV costs and market growth assumptions from CEPA/Parsons Brinkerhoff[12] . It is assumed that the rates of growth seen in the period to 12 December 2011 (and potentially to end March 2012) were exceptionally high due to the announcement of the

[11] **CEPA/PB, ibid**
[12] **CEPA/PB, ibid.**

comprehensive review of tariffs in April, and that rates of growth post April 2012 will be slower reflecting the recalibration of tariffs to installation costs.

54. There is considerable uncertainty surrounding many of the underlying assumptions, given how quickly the PV market is changing at the moment – there is particular uncertainty around the costs and deployment levels of PV. Charts 2 & 3 and table 4 above present the range of sensitivities given by PB in their updated January 2012 PV costs report.

55. The high and low deployment scenarios are based on the high and low growth scenarios to end March 2012, set out in Table 6 above, which, when combined with growth rates from the FITs model, lead to higher and lower deployment to 2020 and beyond. These scenarios are set out in tables 14, 15 and 16.

Wider Impacts

Equality Assessment

56. The policy proposals have been screened for equality impacts. We consider that a decision on the options would not have a positive or negative effect on any particular protected characteristic. (or "equality strand"). We have therefore not undertaken a detailed Equality Impact Assessment.

Environmental Impacts

57. Under the central growth scenario, the 'no change' scenario is expected to deliver 195MtC02 savings over the lifetime of the measure. Under 'option 1' this falls to 150MtC02. Therefore the net impact of the measure is to lead to an additional 45MtC02 over the policy lifetime. However, carbon saved under the FIT scheme is in the traded sector and is capped by the EUETS.

58. Feed in Tariff provides the support scheme for small-scale renewable electricity generation. Alongside the Renewables Obligation it incentivises investment in renewables projects which help to move the UK away from fossil fuel dependency towards a low carbon economy with consequential carbon savings from displaced fossil fuel generation.

59. Linking the Feed in tariff for solar PV with an energy efficiency commitment could encourage households to take up more energy efficiency measures, with associated carbon savings. The estimates of overall impact in this assessment do not take account of any increase in uptake, as this is too uncertain.

Sustainable Development

60. The Feed in Tariff is aimed at increasing the deployment of small-scale renewable electricity generation in order to move the UK away from fossil fuel dependency towards a low carbon economy in preparation for a future when supplies of gas and oil will become tighter and more expensive. It will therefore have a negative impact on sustainable development.

Distributional Impacts

61. Changing the level of the feed in tariff affects the overall subsidy levels needed to support generation, and hence the cost of that support to consumers through the electricity bill. Table 15 above gives the subsidy costs of the preferred option under high, central and low deployment scenarios. Table 12 gives the subsidy costs of the no change 'do nothing' option. Table 17 below gives the estimate of the impact on domestic bills of the cost of

solar PV Feed-in Tariffs, under the no change option, and under the preferred option under central deployment scenarios. These impacts have been measured against a 'no feed in tariff scenario'.

62. Under the no change option, the cost to domestic bills of solar PV would have been around £25 p.a. in 2015, and £60 p.a. in 2020 (2010 prices, undiscounted). The change to tariffs will reduce this cost by around £15 in 2015 and by £25 in 2020 respectively.

Table 17a : Estimated Impact on Domestic Electricity Bills (central scenario)

Impact on average domestic bill £2010 prices undiscounted	**No Change**		**Lead Option**	
	£/yr	**%**	**£/yr**	**%**
2011	**2**	0.3%	**2**	0.3%
2012	**8**	1.3%	**5**	0.9%
2013	**14**	2.2%	**8**	1.2%
2014	**20**	3.3%	**10**	1.6%
2015	**26**	4.4%	**13**	2.2%
2016	**32**	5.6%	**17**	2.9%
2017	**39**	6.9%	**21**	3.7%
2018	**46**	8.6%	**26**	4.9%
2019	**54**	9.9%	**32**	5.9%
2020	**61**	11.3%	**38**	7.1%

Table 17b: Estimated Impact on average non-domestic bills (central scenario)

Impact on average non-domestic bill £2010 prices undiscounted	**No Change**		**Lead Option**	
	£/yr	%	£/yr	%
2011	**5,000**	0.4%	**5,000**	0.4%
2012	**21,000**	1.5%	**14,000**	1.1%
2013	**38,000**	2.7%	**21,000**	1.5%
2014	**56,000**	3.9%	**28,000**	2.0%
2015	**76,000**	5.4%	**38,000**	2.7%
2016	**98,000**	6.8%	**51,000**	3.5%
2017	**121,000**	8.4%	**66,000**	4.6%
2018	**146,000**	10.3%	**83,000**	5.8%
2019	**173,000**	12.0%	**103,000**	7.2%
2020	**202,000**	13.6%	**127,000**	8.6%

Economic Impact

63. The Feed in Tariffs scheme has created business and job opportunities in green sectors of the economy. Estimates of the scale of this impact in the future are uncertain because they depend on factors such as how many installations will come forward, installation times and the number of associated supply chain jobs. In order to estimate the impact of the FITs scheme on jobs, we need to know the proposed future tariffs, not just the tariff at April 2011. Therefore estimates of the impact of FITs on jobs in solar PV are given in the Phase 2a Impact Assessment.

Micro business exemption

64. Feed in tariffs provide subsidy for small scale low carbon electricity generation, and therefore do not count as regulation. The micro-business exemption does not apply.

Annex 1- Assessment of PV subsidy costs against Budgets

The table below shows the DECC budget for all FIT technologies

Table 18: FITs budget

Costs to consumers, £m, nominal undiscounted	2011/12	2012/13	2013/14	2014/15	Total
FITs budget[13]	94	196	328	446	1064

Cost projections against the FITs budget

The FITs budget is presented in nominal, undiscounted terms, and is for all eligible technologies, not just for solar PV. Therefore, we have included estimates for non-PV technologies in the tables below in order to be able to compare against the above table. Estimates for non-PV technologies are taken from the non-PV Phase 2 IA published alongside this IA.

Cost projections against the FITs budget

The FITs budget is presented in nominal, undiscounted terms, and is for all eligible technologies, not just for solar PV. In order to allow comparison against the FITs budget, we therefore present the projections below in this way. In order to give more understanding about the impact of the measures, we break down estimates into solar PV and non PV costs, the latter are consistent with the estimates underpinning the preferred option in the FITs comprehensive Phase 2 consultation. We also break down estimates between cost up to end of March 2012, and costs for installations coming on thereafter, to allow a better understanding of the impact on costs for installations affected by the measure.

Table 19: Do Nothing costs to consumers versus FITs budget, central scenario

Do Nothing Central					
Costs to consumers, £m, nominal undiscounted	2011/12	2012/13	2013/14	2014/15	Total
FITs budget	94	196	328	446	1,064
PV committed	140	580	600	620	1,940
PV additional	0	250	780	1,440	2,470
PV total	140	830	1,390	2,060	4,420
Non-PV committed	30	40	40	40	150
Non-PV additional	0	10	30	60	110
Non-PV total	30	50	80	100	260
Total	170	880	1,460	2,160	4,670
FITs budget - total	-70	-680	-1,130	-1,720	-3,610

[13] Note this was adjusted from the original published figures to take account of small scale installations that are more likely to come forward under FITs than the RO

Table 20: Option 2: Preferred option costs to consumers versus FITs budget, central scenario

Option 2 central					
Costs to consumers, £m, nominal undiscounted	**2011/12**	**2012/13**	**2013/14**	**2014/15**	**Total**
FITs budget	94	196	328	446	1,064
PV committed	140	450	470	490	1,550
PV additional	0	60	190	440	680
PV total	140	510	660	920	2,230
Non-PV committed	30	40	40	40	150
Non-PV additional	0	10	30	60	110
Non-PV total	30	50	80	100	260
Total	170	560	730	1,020	2,480
FITs budget - total	-80	-360	-410	-580	-1,420

Under a Do Nothing option, costs to consumers outstrip the FITs budget several times over across the Spending Review period. The preferred scenario reduces the projected overspend, but leaves a case for reducing tariffs further post April.