

CABINET	AGENDA ITEM No. 5
5 NOVEMBER 2012	PUBLIC REPORT

Cabinet Member(s) responsible:	Cllr Marco Cereste – Cabinet Member for Growth, Strategic Planning, Economic Development, Business Engagement and Environmental Capital	
Contact Officer(s):	John Harrison – Executive Director - Strategic Resources	Tel. 452520

DEVELOPMENT OF GROUND MOUNTED SOLAR PHOTOVOLTAIC (PV) PANELS (SOLAR FARMS) AND WIND TURBINES

R E C O M M E N D A T I O N S	
FROM: Executive Director, Strategic Resources	DEADLINE DATE: N/A
That Cabinet:	
<ol style="list-style-type: none"> 1. Notes the updated strategy for the development of renewable energy parks at each of the three council owned agricultural sites (America Farm , Morris Fen and Newborough farms) since the report to Cabinet dated 10 July 2012, in respect of ground mounted solar photovoltaic panels and wind turbines; 2. Approves the proposal to submit planning applications in respect of development of ground mounted solar photovoltaic panels; 3. Notes that subject to planning permission being received for ground mounted solar photovoltaic panels a contract for their installation is likely to be awarded to Mears Ltd under a framework agreement approved under a decision by the Cabinet Member for Resources (reference Solar Photo-voltaic (PV) Panels Framework Agreement - JAN12/CMDN/002) 4. Notes that subject to the outcome of necessary studies and continued negotiations a further report will be brought back to Cabinet for consideration prior to submitting planning applications for wind turbines; 	

1. ORIGIN OF REPORT

- 1.1 This report is submitted to cabinet following a referral from the Corporate Management Team.
- 1.2 At its meeting on 10 July 2012 Cabinet approved the outline strategy for the development of renewable energy parks at three council owned agricultural sites to include Ground Mounted Solar PV (farms), wind turbines or other types of renewable energy schemes. Appendix 1 shows a plan of the three sites. For the Farms at the Newborough site, the plan shows both the total area of land within the Council's ownership and the proposed solar farm planning application site boundary. This also applies to both Morris Fen and America Farm, however, it should be noted that the planning application site boundary will cover the majority of the total area of land within the Council's ownership on these sites. Further detail on each site is provided under Section 5.

- 1.3 Cabinet noted that the outline strategy was subject to further due diligence and studies around planning, environmental, technical and financial issues and, as agreed, this matter is being brought back to Cabinet for further consideration, following completion of those studies, and prior to any planning application being submitted.
- 1.4 It is important to note, because the point has been raised by a number of people since the July cabinet report, that it was never anticipated that the whole of the land available at these three sites would be required. It was stated at paragraph 4.11.4 of the July report that “the amount of land that would be taken up by the developments could leave substantial areas for farming to continue”.
- 1.5 Cabinet will be aware that at its meeting on 10 October 2012, Council asked Cabinet to review its decision made on 10 July 2012, in consultation with the Sustainable Growth and Environment Capital Scrutiny Committee. That committee agreed to work with the Scrutiny Commission for Rural Communities, because of the importance of this issue to rural communities. A joint meeting of the Sustainable Growth and Environment Capital Scrutiny Committee and the Scrutiny Commission for Rural Communities is due to take place in the Council chamber at 5.30pm on Friday 2 November 2012, and the recommendations from that meeting will be tabled at the Cabinet meeting on 5 November 2012. Issues already raised by members of the scrutiny committees have been addressed, as far as possible, in the contents of this report.

2. PURPOSE AND REASON FOR REPORT

- 2.1 The purpose of this report is to seek Cabinet approval to move to public consultation and final preparation stage culminating in the submission of planning applications for solar farms for all three sites. The development of wind turbines and possibly other technologies will be reported back to Cabinet at a later date, probably in or around October 2013 before progressing to the planning application stage in 2013. Therefore, this report does not detail any potential proposals for wind turbines, and makes recommendations solely in relation to solar farms.
- 2.2 This report is for Cabinet to consider under its Terms of Reference No. 3.2.4, to promote the Council’s corporate and key strategies and Peterborough’s Community Strategy.

3. TIMESCALE

Is this a Major Policy Item/Statutory Plan?	No	If Yes, date for relevant Council Meeting	n/a
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4. BACKGROUND INFORMATION

- 4.1 The Council, as part of its Environmental Capital Agenda, is seeking to produce ‘green energy’ in the city through its Energy Services Company (‘ESCo’), “Blue Sky Peterborough Limited”. Progress has already been made in supplying and installing solar photovoltaic (PV) panels on rooftops of some of the council’s buildings and schools. The current Feed in Tariff (FiT) support regime by the Department of Energy and Climate Change (DECC) for such schemes has been reduced. The Council is investigating whether prices of solar PV panels has dropped such that, it may still be commercially viable to build out a further second phase installation of PV panels on another 20-25 school roofs.
- 4.2 In addition to making significant inroads into the Environment Capital Agenda, the development of the three sites would generate significant amounts of renewable energy that can be used by the Council to safeguard its budgets against future rising and uncertain, energy price inflation. Additionally, the energy generated can be sold to generate income in order to help close the Council’s funding gap and protect its ability to deliver future services.

- 4.3 In order to assess the viability of any suitable sites in the Peterborough area for development of renewable energy projects, the Executive Director – Strategic Resources, under his delegated authority, awarded a contract using the Homes and Communities Agency (HCA) framework procurement process, to AECOM, to carry out initial project appraisal studies. The initial appraisal work has now been progressed to a stage whereby it is appropriate to report back to Cabinet on initial findings to date and seek approval to move to the next stage. It should be noted that there are still a significant amount of studies to be conducted before any planning applications can be submitted.
- 4.4 There were four sites included in the original brief to AECOM, the fourth, at Wittering, was rejected early in the studies because it is close to RAF Wittering, and is considered too small a site to be viable for large scale renewable energy projects. Prior to instructing AECOM preliminary consideration was given to other council owned land, primarily a large area of land at Castor, but this was rejected as feasible because it is subject to a 999 year lease to the Nene Park Trust. Land not in council ownership was not considered, because the additional costs and time involved in acquisition would be likely to have an adverse impact on potential financial returns.
- 4.5 As stated earlier, the principle focus of this report is to update the Council's solar farm proposals. However, on two of the sites namely the Farms of Newborough and Morris Fen, the Council is also considering developing wind farms in addition to the solar farms detailed. Proposals on the development of wind turbines on these sites will be set out in a further report to be presented to Cabinet during 2013.
- 4.6 The future wind option on Morris Fen shows up to three turbines positioned on the site. The size of the turbines are yet to be confirmed and is subject to metrological mast results which are estimated to be available towards the end of 2013 once a twelve month long study has been completed.
- 4.7 A drawing is shown at Appendix 4a that highlights the combined technologies on the site with an element of solar reduction due to land take. The wind layout will not affect the initial solar proposals of December 2012 – see planning strategy section.
- 4.8 The future wind option on the farms of Newborough, shows up to six turbines positioned on the site. It should also be noted that 2 or 3 of the proposed wind turbines are outside this solar layout zone, however, their long term land use is minimal. The wind turbine option is subject to the metrological mast results amongst other reasons and this is estimated to be available towards the end of 2013 once a twelve month long study has been completed.
- 4.9 A drawing at Appendix 4b shows the most appropriate combination of technologies on the site, in terms of financial revenue return. This is shown as 18MW of wind and 31MW of solar as the site can generate a combined technology of 49MW.
- 4.10 It should be noted that the technology combination may vary if the future wind planning submission does not secure the full 18MW. For example, if 12MW of wind is approved, the solar construction will increase to 37MW, totalling a combined level of 49MW. The future wind application will not affect the initial 49MW solar planning proposal (see planning strategy below). Proposals on the development of wind turbines on this site will be set out in a further report to be presented to Cabinet during 2013.

5. WORK UNDERTAKEN SINCE THE 10 JULY CABINET REPORT

- 5.1 Prior to the report being submitted in July, preliminary project appraisal studies were undertaken at a high level. Work continues involving a series of studies and surveys to identify the environmental and physical features that would constrain development on the three sites and determine the maximum capacity and developable area for both solar and wind technologies. These main potential constraints are listed below:

5.1.1 Technical Considerations:

- Grid Connection
- Aviation and Radar Impacts
- Site access for construction / traffic impacts
- Wind turbulence from vegetation and buildings
- Ground conditions

5.1.2 Commercial Considerations:

- Tenant holdings
- Quality of agricultural land

5.1.3 T Environmental Considerations:

- Ecology
- Ornithology
- Flood Risk
- Shading from vegetation and buildings
- Archaeology
- Landscape
- Noise

5.2 The project appraisal studies have been conducted through meetings with stakeholders, site visits and a series of desktop assessments. In addition, a desktop assessment of the potential solar energy yields at each of the sites has been undertaken as well as technical engineering and design work. This work has enabled site design layout plans to be formulated that, subject to approval from Cabinet, would form the basis of the planning application submissions for the solar panels.

5.3 Whilst 3000 acres were assessed as part of the proposals, it has been determined that less land is required to achieve the desired energy and financial output. Although subject to some variation as the designs are finalised, it is anticipated that the land needed will be in the region of 900 acres. It is important to stress that further studies as referred to in the sections below, will still need to be carried out if Cabinet accepts these recommendations.

5.4 The total land area of 3000 acres has twenty two individual tenancies. Of the 900 acres identified for potential renewable energy development, nine tenancies will be impacted by the Council's plans.

5.5 Concerns have been raised since the previous Cabinet meeting about the impact on the tenant farmers, and therefore details of the tenancies affected are shown in the table included at Appendix 7, to allow further discussion and consideration of this issue.

5.6 The Council does not have detailed information about the crops grown as the tenants are under no obligation to provide this information, and it changes from year to year, however it is understood that the majority of tenants do grow food crops.

5.7 Each of the three sites are currently undergoing the following surveys:

5.7.1 Archaeology and Heritage Assets

All three sites have no or negligible sites of known archaeology within their site boundaries. Council plans a combination of geophysical and intrusive archaeological evaluation that will be carried out in November/December 2012.

5.7.2 Ecology and Ornithology

Due to the relative proximity of all the three sites to the Nene Valley Washes Ramsar, Special Protection Area (SPA) and Special Site of Scientific Interest (SSSI) site Council is undertaking field survey work to establish any potential impacts of the development on the local habitat. If and where there is activity noted by a particular species, minimum buffers of between 30m to 50m will be introduced into the layout of the development. Results of surveys and mitigation undertaken will be submitted with the planning applications.

5.7.3 Minerals and Waste

All three sites are located within the Minerals and Waste Local Development Framework (LDF) safeguarded area and are identified as being within the Minerals and Waste Local Development Framework (LDF). However, as the proposals do not involve winning and working of minerals or waste management, this safeguarding will not be affected.

5.7.4 Flood Risk

All three sites are either wholly or partially located in Flood Zone 3. Informal consultation with the Environment Agency has indicated that there are no significant issues with placing the solar arrays in Flood Zone 3, and this will be confirmed prior to work commencing. Where there are drainage channels across the site, these will affect the area of panels that can be designed for the site(s). However, a formal drainage scheme/design is not required as existing surface water regimes would not be altered and surface water would continue to infiltrate as per the existing situation

5.7.5 Landscape

All three sites are not located within any landscape designations however a design and mitigation strategy would be submitted with the planning applications. This would set out how the existing landscape fabric at site level would be preserved, to help integrate the development within the surrounding landscape context..

5.7.6 Transportation

It is to be noted that the transportation required for the development of ground mounted solar will not adversely impact traffic around the sites for prolonged periods.

The following section deals with site specific issues.

America Farm

- 5.8 The America Farm site comprises approximately 40 hectares (100 acres) of flat, arable farmland. The majority of the site is classed as Grade 1 and 2 agricultural land.
- 5.9 The initial assessment, set in the cabinet report dated 10 July 2012, detailed that this site was capable of producing 16MW of electricity through the installation of solar panels. The development of wind turbines on this site was discounted due to the location of private dwellings within a 500m buffer zone. The 16MW was a high level calculation and now that the site's constraints have been identified, as detailed above, it is considered that up to 8MW of electricity is the maximum output that would cover the main area of America Farm. Despite this, the site remains financially viable for this development. A plan showing the solar panel layout on the site is given at Appendix 2a.
- 5.10 The equipment will generally comprise the installation of photovoltaic panels, associated boundary fencing, security and CCTV cameras, site access and associated electrical infrastructure including electricity sub-station, inverter units and a transformer compound. Concerns were raised at the Council meeting on 10 October 2012 about security at the

site, but the proposed design and costs include security features and it is not anticipated that the installation will be at high risk of vandalism or theft. A landscape and visual impact assessment will be prepared to support the planning application. It will set out measures, such as additional hedges and landscaping, to mitigate the impact of the development on the surrounding landscape, if this is deemed necessary.

- 5.11 The site is traversed and bounded by a series of land drainage channels and these will be subject to a minimum of 10m buffers from their edge to protect the natural habitat.
- 5.12 There are several buildings associated with America Farm with the potential to support natural habitats. A minimum 50m buffer will be provided from these buildings to avoid any potential impact from construction.
- 5.13 America Farm is occupied by a single tenant. The proposed development of the site would mean that the tenant could no-longer farm the land. Options relating to compensation and future options are being actively explored with the tenant
- 5.14 The principal constraint of the site at America Farm is the capacity of the grid, which will restrict power generation from the solar farm to a maximum of 8MW. This could be subject to small degree of change after detailed negotiations take place with UK Power Networks (UKPN), the district network operator for electricity in this area, in the next 6 months. The connection for the power generation will be to an existing 11kv connection along Oxney Road to Peterborough East primary station.
- 5.15 The Council have considered other developments in the area and their stages of development. There are currently no other known developments that will affect the grid connection. Therefore, at this stage, the impact on the grid connection is considered low. However, the technical capacity will be confirmed towards the end of 2012 after final discussions with UKPN.

Morris Fen, Thorney

- 5.16 Morris Fen, Thorney, comprises approximately 108 hectares (266 acres) of flat arable farmland. Two private houses, along with surrounding vegetation, are located off Black Drove, which forms the southwest boundary of the site, and a golf course is located to the south of the site. The whole site is classed as Grade 2 agricultural land.
- 5.17 The initial assessment detailed in the July cabinet report concluded that this site is capable of producing up to 40MW peak of solar renewable energy generation. However, factoring constraints detailed below, it is considered that an initial layout with a capacity of up to 27.0MW for solar PV could be achieved. The layout of the panels would be similar to that set out above for America Farm. A plan of showing the proposed solar panel layout is given at Appendix 2b.
- 5.18 The golf course has a line of mature trees. Therefore, a 30m buffer zone should be incorporated into the design to prevent any shading of the solar panels from the tree canopy or its shadow.
- 5.19 Thorney Lodge is a Grade II listed building located directly adjacent to the southwest of the site. Impacts on its setting will be fully detailed and assessed as part of the planning application submission. Our assessment will also involve discussion with English Heritage.
- 5.20 A minimum 50m buffer is required from three buildings and four trees on site to avoid construction impacts on natural habitats.
- 5.21 Morris Fen is currently subject to four separate tenancy agreements, three of which are held by the same family. The development of a solar farm would mean that the site could not be farmed for arable crops for the lifetime of the project. The farmers would be

compensated in line with the terms of their tenancy agreements and other options to help minimise the impact on the farmers are being explored.

- 5.22 To the north of the site there is a high-pressure gas main and so, the design has positioned the panels and turbines the required buffer distance of 5m either side of the utility. The cost of underground cabling has been accounted for within the financial model.
- 5.23 The development of this site would require a new substation connecting into the existing overhead line cables. This substation will allow the Council to link both Morris Fen and Newborough sites into a single connection. This is a more efficient and economic approach than the two connections proposed in the July cabinet report. The substation will be sized to enable the connection of all capacity that could be developed across both the Morris Fen and Farms at Newborough. It is expected that it would be sized to accommodate up to 100MW of connected capacity.
- 5.24 The proposal will include the removal of up to 5 overhead towers across the site, with the cable being taken underground along the south east edge of the site, freeing the area for solar development. The costs of underground cabling have been accounted for within the financial model.
- 5.25 This substation will then connect to the 132kv line part of the Walpole grid group. The works for this site are estimated to take place around Summer 2014, due to the lead time required by the National Grid and UKPN. Investigations are ongoing to determine whether this connection could be made earlier.

The Farms of Newborough

- 5.26 This site comprises of approximately 1066 hectares (2630 acres) of flat, mainly arable farmland. The site area boundary is shown at Appendix 1. The site area is located approximately 5km east of Peterborough and 1km south of Crowland. It comprises arable fields, bounded to the south by the B1443 (Thorney Road) and the west by Peterborough Road South. There is one private farm, Hill Farm, located within the development site, with a variety of properties intermittently located around the perimeter.
- 5.27 Whilst the Farms of Newborough is classed as Grade 2 agricultural land, there are some smaller areas of Grade 1 agricultural land. However, the area identified for the proposed plant is on Grade 2 agricultural land. There are two public rights of way within the site; a footpath in the north and another public access route in the west.
- 5.28 Although the cabinet report dated 10 July 2012 identified all the land at the Farms of Newborough as potentially providing renewable energy development, it was never the intention to develop all of the land. The current proposal is develop up to 49MW of electricity on this site, because a development of more than 50MW would result in any future planning application being determined by the Planning Inspectorate and not the Local Planning Authority. The Planning Inspectorate route would add up to 18 months to the planning process
- 5.29 Subsequent work has allowed the exact location of the development site to be determined within the wider site. This site chosen would take up approximately 203 hectares (501 acres) of land and represents 20% of the total available within the council's land holdings at Newborough. The following were taken into account during site identification:
- (i) it is closest to the point of connection with the grid at Morris Fen and therefore reduces connection costs,
 - (ii) archaeological desktop reviews have highlighted that this area of land has the least archaeological interest,
 - (iii) due to its relative lack of hedging and woodland it has the least potential ecological sensitivities, and
 - (iv) the site affects a small number of tenancies where the leases are mainly short term.

- 5.30 The proposals for solar panels will be designed to have minimal impact on the surrounding residential properties. A buffer zone will be considered as part of the design and layout of the panels and will depend on the advice given by the Local Planning Authority. The Council is also consulting with residents to understand future options, and the residents' concerns. The proposed solar panel layout can also be seen at Appendix 2c.
- 5.31 The Council's proposal will affect six, of the nineteen tenants directly who are on a variety of tenancy agreements. One of the six tenants is minimally affected by the position of a single wind turbine whilst a second tenant is retiring in October 2013. The four remaining tenants are affected by the solar and wind proposals in various levels due to individual operations.
- 5.32 The Council has commenced discussions with the farmers identified as being affected by the proposals. This is to establish initial views and develop solutions that may allow the farming businesses to continue on the land at Newborough. Other options to help minimise the impact on the farmers will continue to be explored in order to maintain the long term farming strategy.
- 5.33 It is proposed that the electrical connection to the site will be underground in the B1443 verge (Bukeham Road) to the new Morris Fen substation as discussed in 5.23. This will connect to the 132kv line, which is part of the Walpole grid group. The works for this site will not take place until a likely period of summer 2014, as the National Grid and UKPN require a long lead time to plan the scheme. Investigations are ongoing to determine whether this connection could be made earlier.

6. PLANNING APPLICATION STRATEGY TIMESCALES

- 6.1 The planning application strategy for the development of solar farms is broken down into a number of key stages.
- 6.2 As part of the council's planning submission it will actively seek the opinion of the local planning authority (LPA) through a request for a pre-application meeting allowing key consultees to feedback on Council proposals. This will also help council to understand what their issues are and seek resolution at an early stage of the process, thereby limiting any abortive work and saving time and money later on in the process.
- 6.3 The first set of submissions containing the results of project appraisal studies and surveys, involves a request for a 'Screening Opinion' from the Local Planning Authority. A Screening Opinion will establish whether the solar farm developments proposed in this report will be subject to an Environmental Impact Assessment (EIA) under the Town and Country Planning (Environmental Impact Assessment) (England) Regulations 2011. An EIA would be required if the developments are deemed to have significant effects on the environment.
- 6.4 The outcome of the screening opinions will determine which of the two planning scenarios set out below is adopted:
- (i) Scenario 1: If the LPA determines that the solar development(s) are not likely to have significant effects on the environment and, hence, EIAs are not required. Council will prepare and submit all three solar planning applications in December 2012 as detailed in this report. In this scenario, construction of the plant would start in July 2013.
 - (ii) Scenario 2: If the LPA determines that an EIA is required as the proposals are likely to have significant effects on the environment, Council will prepare and submit planning applications in two phases. The first phase will be to revise the proposed solar farms layouts. This will enable the submission of three separate planning applications in December 2012. A second phase of solar planning applications

would then be submitted in by the end of March 2013 supported by EIAs, which would take the build out of the solar PV panels up to the total outputs given in this report. In this scenario, the earliest that site could start to be developed is November 2013. A timetable detailing key dates for each scenario can be seen at Appendix 5.

- 6.5 The above strategy does not include details in relation to wind turbine development. However, the current proposal for development of both wind and solar can be seen overall at Appendix 3 and in further detail at Appendix 4a and Appendix 4b. It is also worth noting that a planning application was registered on the 26 September 2012 for the installation of a meteorological mast at the Newborough site. Once erected, this mast will measure and compile wind data, which will help inform any future wind turbine planning application.
- 6.6 The planning strategy for the wind element of the proposal set out in the report will be presented in a report to Cabinet in 2013.

7. CONSULTATION STRATEGY

- 7.1 The Council is currently preparing a Consultation Strategy document that will be available to the public on the Council's website in November 2012. The purpose of this Strategy is to explain how PCC will consult and engage with the wider community, and the residents in the affected areas, on the proposals and results of the studies. This will be done in a number of ways; online surveys and comments forms, exhibitions, and through meetings. The public will be invited to attend consultation events through an integrated awareness-raising plan that will include advertising and local media, e-newsletters for those who have signed up for more information and via direct mail. This is set to launch the first week of November and is subject to Cabinet approval.
- 7.2 The Council's Statement of Community Involvement (2008) (SCI) sets out how the Council will involve residents, businesses, parish and neighbourhood councils, groups and organisations in making decisions on planning applications. It also encourages developers to consult with the community on major and sensitive developments in the City. The consultation process will inform the submission of the planning applications. Furthermore, as part of the suite of planning documents, a community involvement statement will be prepared which will set out all the issues raised and how they have been addressed.
- 7.3 The first stage of the consultation process has already commenced. Letters have been sent to the tenant farmers on the three sites advising them of the proposals and how they will be consulted going forward. There have been two meetings with the National Farmers Union (NFU). The NFU is a key consultee in the process and the Council would like to work with them throughout this project as it is recognised that they will need to keep their affected members up to date.
- 7.4 There has also been attendance at local group meetings. Meetings were held with Newborough Landscape Protection Group at Thorney Golf Club on 4 September 2012, and the Newborough Parish Council meeting at Newborough Village Hall on 15 October 2012, to listen to concerns and respond to the many questions raised by the tenant farmers and local residents.
- 7.5 Media briefings have been conducted with local newspapers, television and radio stations. Briefing notes have been prepared for the media, as well as a questions & answers' briefing note which will be kept updated on a monthly basis.
- 7.6 The next key step will be to arrange a seven day drop-in exhibition in the city centre in November 2012 to introduce the public to the project and provide an update on Peterborough's aspirations to be Home of Environment Capital. This will be accompanied by local drop-in events in close proximity to each of the three sites. The Council will also be

engaging with local groups and affected members so that early feedback can be received on the initial proposals before moving into detailed design and development.

- 7.7 Also, as part of the consultation exercise, the Council will ensure that as many communication channels as possible are developed and used to keep all parties involved and informed as the proposals progress. The Council will be establishing a dedicated website featuring all information available on the proposals, as well as an email address (renewables@peterborough.gov.uk) for all parties to use should they have any enquiries. The Council will also be routinely communicating updates and information using traditional and electronic newsletters, posters and exhibition events where interested parties will be able to visit and talk to Council officers and representatives from the consultant team undertaking the work.

8. FINANCIAL MODELLING OVERVIEW

- 8.1 There are currently two options being considered where the proposal for development is as follows:

TABLE 8.1	Option 1		Option 2	
	Solar	Wind	Solar	Wind
America Farm	8MW*		8MW*	
Farms of Newborough	49MW*		31MW***	18MW**
Morris Fen	27MW*		25MW***	9MW**

N.B

* subject to final design layouts and consultation

** subject to met mast data and further investigations / consultation

*** solar levels are for the best financial case and will increase if wind generation reduces – see 4.10 for additional information

- 8.2 In the July cabinet report there was a third option which proposed either solar or wind at each site. It was considered that this third option was not viable as a proposal as it did not fit well with the strategy for the development of the sites, because, if the proposal for wind turbine development is approved then the Council would achieve the best result by developing wind turbines on sites and surrounding them with ground mounted solar PV panels.
- 8.3 Initial financial modelling has been undertaken by Davis Langdon and Deloitte for the three solar farm sites. This has been broken down into two phases should it be proposed that some of the development of solar panels require an Environment Impact Assessment. The financial summary of each of the options is set out below with further information set out in Appendix 6.

TABLE 8.2	Option 1 £m	Option 2 £m
Total project costs and income		
Capital Repayment	141.3	151.9
Operating Costs	107.4	113.3
Interest	86.2	88.6
Total costs	334.8	353.8
Income – ROC	124.9	150.5
Income – PPA	240.6	317.5
Total income	365.5	468.1
Net Income	30.7	114.2
Net position in first 5 years (+ denotes net surplus)		
2012/13	-0.07	-0.11
2013/14	-0.23	-0.36
2014/15	0.49	-0.01
2015/16	1.63	3.84
2016/17	3.03	8.12
Potential C02 displaced		
Tonnes / annum	36,730	59,279

8.4 NOTE: The figures remain at a high level and the financial model will be subject to further refinement as the project develops and negotiations take place. These are detailed below:

- 8.4.1 Refinement of costs as negotiations on costs such as unit pricing is developed. In addition, refinement of income as prices for sale of energy are negotiated.
- 8.4.2 The current financial model is based on the lower tariff proposed by DECC of 1.5 (Renewable Obligation Certificate) ROCs per MWh. It also only uses the base rate of £38 per MWh as there is uncertainty around the additional trading element.
- 8.4.3 An estimate for the cost of business rates is included within the financial model. Where Government propose to localise business rates, some of the income will be retained by the Council. This will further improve the return to the Council. The cost of business rates included range from £343k to £649k in the first whole year of operation.
- 8.4.4 Loss of rental income from the proposed sites (which is in the region of about £71k per annum) is included within operating costs as shown in table 8.2 above. However, it is anticipated that some land may still be available for farming but also an offer of other land can be made to some tenants, which could reduce the potential loss of rental income. These options have the potential to further improve the return to the Council, however, a prudent approach has been taken until such discussions have taken place and agreements reached.
- 8.4.5 Within 'capital repayment' there is an allowance for the proposed grid connection costs where further discussion with UKPN is required before these costs can be accurately costed. However, it is believed that the amount is sufficient in respect of the works to be carried out.
- 8.4.6 There is also an amount set aside for compensation payments within 'capital repayment'. It is anticipated that both tenants and some private residents will be impacted by the proposals. The amount set aside is considered suitable based on

discussions and advice received to date. However, it is accepted that further assessment of private residents is required before compensation can be determined accurately.

- 8.4.7 It is to be noted that there is intention to enter into discussions with Parish Councils in respect of 'Community Funds' and how these can be of benefit to those villages impacted by the proposals. An element of cost is anticipated within the budget for operation and maintenance. However, this budget cannot be refined until negotiations have been entered into for all expenditure streams anticipated within this budget.
- 8.4.8 The projections assume increase in costs and income in accordance with RPI. This has been assumed at 3.68% for 4 years and then at 2% for the remainder of the project term. This will be reviewed on a regular basis and may impact on projections should it be felt necessary to amend the projections.
- 8.4.9 The financial models are in accordance with expected project delivery timescales as per the attached timetable shown at Appendix 5. It should be noted that should the timescales change for any reason that the model will require adjustment in accordance with those changes.
- 8.4.10 Full life cycle costs have been taken into account within the financial projections which include responsible decommissioning and recycling costs. These are located within operating costs and will form part of the negotiations with potential contractors where it is anticipated that an amount will be set aside in order to carry out these works at the end of the project lifetime.
- 8.5 It was proposed in the previous cabinet report that the project meets the criteria for Invest to Save funding. There is no change to this proposal at this point in time. Currently, the costs of Option 1 are in excess of the £100m allocation (which means extra income will be generated). No arrangements will be put in place until after planning permission has been received. Appendix 5 indicates that this will be after the Council approves a new Medium Term Financial Strategy. The refresh of this strategy will include the appropriate Invest to Save budget.
- 8.6 The financial estimates, as per the previous cabinet report, are based upon the assumption that the build out of the respective ground mount solar and wind energy projects are done so by the Council. It is anticipated that the projects may be built out by the Council's ESCO – Blue Sky Peterborough Ltd ("BSP"). Potential tax and VAT liabilities may be applicable to the projects in such a scenario. The Council is working with its advisers to ensure that any tax or VAT liabilities and impact are minimised. Delivering projects through BSP will provide the Council with the opportunity and flexibility to maximise the commercial benefits over the longer term.

9 MAIN RISKS TO THE BUILD OUT OF SOLAR PV FARMS

Risk Identification				Risk Analysis			Risk Management		
No	Type	Risk Description	Consequence	Likelihood	Impact	Risk Status	Management Actions Taken	Management Actions Planned	Risk Owner
1	Business Case	Extraordinary changes to incentive regime published by DECC	Viability of business case threatened in terms of revenue generation	L	VH		Financial models utilise relevant and published incentive levels for business case	Consult regularly with DECC and drive for delivery as soon as possible	BSP
2	Business Case	Electricity Market Review impact - change of incentive from ROC / FIT to FITCfD requires renegotiation of PPA.	Viability of business case threatened in terms of revenue generation	L	VH		Ensure plants operational before introduction of FIT CfD and secure PPA's for mid rather than long term	Consult regularly with DECC and drive for delivery as soon as possible	BSP
3	Business Case	Changes to Uniform Business Rates of Wind Farms due to regulatory changes	Viability of business case threatened in terms of increase in operational expenditure requirements	L	L		Monitor DECC position, lobby if necessary. Ensure completion of projects within time frames specified	Continue to drive for completion of project	BSP
4	Business Case	Technology hardware price volatility / supply shortage	Viability of business case threatened in terms of increase in capital requirements	L	VH		Close monitoring of supply demand issues - link to item 69	Early engagement with current suppliers - ensure early industry benchmarking is undertaken	BSP
5	Business Case	PPA on-sell price lower than purchase price of power	Viability of business case threatened in terms of revenue generation	L	L		Energy price inflation currently forecast at 7.4%,.	Develop relationships with energy brokers to ensure close monitoring of prices at time of negotiation.	BSP
6	Business Case	License Lite (if applied for) requires renegotiation of secured back to back PPA	Viability of business case threatened in terms of revenue generation and / or License Lite application	L	L		License Lite application still to be decided.	Back to back PPA allow for renegotiation to accommodate this scenario	BSP
7	Business Case	Tenant farmer liaison is ineffective	Affects on publicity of the scheme	M	H		Strategy developed / tenant farming options has been drafted and are being reviewed	Using lessons learnt to date instigate better communications with the tenants going forward	PCC
8	Planning	Planning permission not forthcoming or significant amendments required for the solar scheme and wind schemes	Project is cancelled	L	VH		Feasibility study underway to assess options and viability	Deliver a comprehensive planning submission having undertaken the appropriate proactive consultation from November 12	AECOM/PCC
9	Planning	Local planning authority require an Environmental Impact Assessment that slows the delivery process	Project delayed	M	H		Build sufficient time in the project programme to cover this eventuality.	See scenario 2 detailed in section 6 of report	AECOM/PCC
10	Planning	Planning submission/permission is delayed due to the need by statutory consultees and the LPA to undertake and complete long term surveys before the applications can be determined	Project delayed	M	H		To liaise with the Planning Authority to identify planning issues at the earliest opportunity and put forward appropriate mitigation.	See section 6 of report	AECOM/PCC
11	Planning	Planning permission could be challenged by 3rd parties	Project delayed	M	VH		Ensure that the council's procedures for determining planning applications and all relevant legislation is strictly adhered to minimize risk of challenge.		AECOM/PCC

9 MAIN RISKS TO THE BUILD OUT OF SOLAR PV FARMS CONTD.

Risk Identification				Risk Analysis			Risk Management		
No	Type	Risk Description	Consequence	Likelihood	Impact	Risk Status	Management Actions Taken	Management Actions Planned	Risk Owner
12	Technical	Grid connections do not meet the cost and programme requirements of PCC	Project is not financially viable or project is delayed	M	H		Grid strategy document produced. Undertaking detailed negotiations with UKPN - currently on plan	Ongoing discussions with UKPN on Morris and Newborough. Commence procurement options	AECOM
13	Technical	Flood zones on the sites affect the design	Affect the substation design for solar	M	M		Discussion with Environment Agency to assess sites	Design to integrate the need for flood protection in the substation	AECOM
14	Delivery	Failure to procure cost effective solar farm contractor	Revenue streams reduced and/or not viable	L	H		Financial models have been undertaken with the use of conservative data	Early engagement with the supply chain	BSP / AECOM
15	Delivery	Procurement of Wind Farm Developer through OJEU	Time taken to award delays start on site date	L	H		Early procurement strategy in Q1 13	Early engagement with the supply chain	BSP / AECOM
16	Delivery	Failure to procure cost effective wind farm developer through OJEU	Council sunk cost into development in terms of fees etc.	L	H		Council able to sell consented site / lease land to private sector to develop out, whilst retaining PPA of plant.	Early engagement with the supply chain	BSP / AECOM
17	Operational	Wind farms perform at sub P50 level due to lack of sufficient wind levels	Revenue streams for period below expectation and hence DSCR compromised	L	H		Redistribution of revenues generated from other assets at ESCo level. Consider insurance performance policy.		PCC
18	Operational	Theft / damage of PV panels / equipment relating to plant	Interruption to revenue generation	M	M		Strong O&M KPI's, sufficient security budgets	Investigate potential for insurance on performance / asset.	PCC

10. EXIT STRATEGY

- 10.1 At the end of the twenty five year period, the solar panels will still be generating up to 80% of the original capability. Consideration has been given on the options that will be available to the Council before the exit strategy can be decided upon. These options are as follows:
- continue with the scheme as maintenance costs will be minimal with energy still being generated and sold at the market rate providing additional income for the Council
 - replaced with other panels which will be dependent on the outcome of further studies undertaken at that point in time
 - remove the panels from the scheme and return the site to its previous use – costs will be funded from the revenue generated over the project lifetime
- 10.2 The financial model assumes that the sites will be decommissioned. However, it should be noted that this had not yet been decided. It is anticipated that Cabinet will want to consider all available options at a future point in time.
- 10.3 Assuming that the sites are decommissioned at the end of the twenty five year period, there is no reason (based on information currently known) why the sites could not be returned to agricultural use at that time, and indeed “resting” the land, or leaving it fallow, could potentially improve its quality and yield.
- 10.4 A question has been raised on the implications of terminating this project before the full twenty five year period. The implications cannot yet fully be explained as no contract has yet been entered into for installation, and much would depend upon the terms of any such contract. However, there are likely to be financial consequences for breach of contract, and more importantly, the earlier the project was terminated, the less likely it would be that a net profit would be generated after installation and decommissioning costs were taken into account.

11. REASONS FOR RECOMMENDATION

To enable the Council to progress its “green” agenda by developing renewable energy technologies, thus generating income through sale of energy, reducing energy costs, and reducing CO2 emissions. A two-staged approach to the build of solar farms is recommended in an attempt to ‘bank’ the higher levels of subsidy currently being offered by the government this financial year.

12. IMPLICATIONS

Financial: Financial implications are outlined in section 8 of this report.

Legal implications: these are discussed in the body of the report as necessary, and all additional legal implications of completing the developments as proposed will be considered when the delegated decisions requested in this report are made. All decisions will be made in accordance with legislation and regulations prevailing at the time that decisions are made.

Corporate Priorities: this proposal supports the Council in its aspiration to become home of Environment Capital.

Property: as set out above, the sites are currently subject to tenancy agreements. It will be necessary to deal with issues arising from tenancy agreements.

Planning: Applications for planning permission will need to be made and the strategy is set out in section 6 of this report. There is no guarantee that permissions will be forthcoming, or approved in their current format. This could have an impact on the financial profile of the projects. To minimise this risk there has been early engagement with the Planning Authority.

Procurement: It will be necessary to extend existing contractual arrangements for professional support such as legal, technical, environmental and financial support as set out in the recommendations.

13. ALTERNATIVE OPTIONS CONSIDERED AND IMPLICATIONS

- 13.1 The Council could decide not to proceed with the studies and potential development of the identified sites. If it chooses to do so, it loses a valuable opportunity to progress its development of green energy. At this stage, no credible alternative sites to those proposed have emerged.
- 13.2 If the Local Planning Authority concludes that the sites require EIAs, an alternative route forward would be to not submit any planning applications for the solar farms this December, and submit three planning applications at the end of March 2013 covering the entire build out detailed in this report. This route would mean that only one set of planning applications for the solar farms would be submitted which would bring cost savings. However, this option would not allow the Council to potentially benefit from receiving the higher tariff levels should planning permission be issued before the end of March 2013. It is therefore considered, on balance, that the staged approach is preferable.
- 13.3 The Council could decide to sell its agricultural land rather than use some of it for renewable energy purposes. The current value of the land is not high, and although land values are increasing, an outright sale is unlikely to achieve the best value for money from the land.
- 13.4 Arable Land in the East Midlands has an average value of £7,063 per acre. Based on a portfolio of 3,212 acres this gives an estate value of £22.6m. However this is very deceptive as it assumes vacant possession value. A more indicative way of valuing the farms estate would be to look at the yield and investment value, based on guidance from the RICS/RAC Rural Land Market Survey 2012. By using the net financial yield to establish value, the Council have an estate cost at approximately £10.1m assuming that the land is not sold with restrictions on use or existing tenancies. This equates to a value of £3,144/acre which is significantly lower than the regional average of £7,063.
- 13.5 It might be possible to achieve a higher value per acre than this, by selling the land in large blocks to adjacent farmers/investors who will be able to drive out economies of scale by farming large areas of land. The low land value resulting from the low yield is an indicator that the farms are not currently as productive as they could be, or that the land is less productive than the average values of land in the East Midlands. However it seems likely that sale of the whole estate would achieve a one-off sum in the region of £10m, which is significantly lower than the potential financial benefits of using some of the land for renewable energy (which also allows the land ownership to be retained), and has therefore been rejected

14. BACKGROUND DOCUMENTS

No additional document were used.