

Neutral Citation Number: [2023] ECC Ely 2

In the Consistory Court of the Diocese of Ely

In the Matter of a Faculty Petition

The Chapel of King's College to Our Lady and St Nicholas

I have read the further submissions from the Petitioner which includes the report from Max Fordham, the submission from the CBC dated 23rd March 2023, from Historic England dated 24th March 2023 and two documents from the DAC. I will deal with the issues in turn.

The efficiency of panels on the north slope: whilst the petitioner and the CBC are now agreed that BEIS methodology should be adopted, they cannot agree which column should be used, whether the long-run marginal or the grid average column is appropriate. The effect on the figures is substantial. Using the long term marginal figures creates a carbon payback time of 7.4 years for the north slope and 4.5 years for the south slope, the north slope having, therefore, a 69% efficiency of the south slope. The column preferred by the CBC would not produce a carbon payback over the lifetime of the panels.

The petitioner has sought to justify the use of the long-run marginal figures in that they are following government guidance in their “valuation of energy use and greenhouse gas emissions”. The CBC accept that they cannot find a clear industry approved standard as to which to adopt but nevertheless feel unable to support the installation of panels on the north roof when the current forecasts available do not guarantee a net carbon payback within the lifetime of the panels.

The DAC has looked at this in detail and made use of their own independent expert. They have also been able to consider the latest government policy report, “Powering up Britain”, published on 30th March 2023, and which

provides further support for the use of rooves for solar panels. In relation to the question of which column should be applied to calculate the possible carbon payback, the DAC comes down firmly in favour of the petitioner's approach. Whilst their report can be read in respect of the detail, the principal submission is that, in accordance with Chapter 3 of the "valuation of energy use and greenhouse gas emissions" the method adopted by Max Fordham on behalf of the petitioner should be used:

"Para 3.20 states that changes to energy use should be calculated using marginal factors... Installing PV changes the energy use from the grid. It is a...small PV install not a large powerplant construction or similarly large project.

Para 3.22 backs this up – changes in grid electricity use should use the marginal factors in data table 1 as MF [Max Fordham] have done

Para 3.28 – 3.30 ... in this case we are not carrying out an organisational footprint, or footprint the building, we are looking at the carbon payback of the project to install solar PV panels. We are looking at a project which changes energy use. Therefore using the footprinting factors is not correct.

Box 3.6 backs this up by stating when NOT to use marginal figures – which is when there is no consideration of CHANGE in energy consumption. Therefore when considering a change in consumption, use the marginal figures."

The DAC submits that the text of Chapter 3 is clear and in support of the Max Fordham position. The assessment concerns the change in electricity generation by the national network that will result from the deployment of the King's PV array. Although this will fluctuate according to the weather, the overall effect of the PV array will be that just a little less electricity will have to be generated by the national network. This is a *marginal* change and so the marginal figures should be used.

Having read these further submissions I am satisfied that there is a clear and convincing justification for installing panels on the north roof as well as the south roof and the faculty can be issued accordingly. It follows that any

concerns which I raised about the effect on the roof of an uneven load, and which seem to have been confirmed by a structural engineer, fall away.

Adding an Overlay: having given further consideration to the fact that the addition of an overlay will reduce the effectiveness of the panels by approximately 10%, it is, in my judgment, unlikely to be of any sufficient visual benefit to make the loss of effectiveness justifiable. The DAC is firmly of the view that it should not form a condition of their installation in any way. I note that it was not one of the three conditions I imposed in granting the faculty. Any question of an overlay should be assessed during the reviews. I agree with the DAC that "...were the performance of Solarskins to be proven, and the product to be available, and the need to be better demonstrated, Solarskins could be fitted retrospectively in the future to panels already in situ."

Reviews: there seems to be concern that a condition of the faculty required the monitoring to start before the panels were installed. The condition reads:

"Every year for the first five years and thereafter at 5 year intervals the architect is to monitor the impact the presence of the panels may have on the performance and longevity of the roof covering. The results are to be published on the Chapel website and be provided to the DAC. The specifications of the monitoring are to be agreed with the DAC before the panels are fitted to the roof."

This seems to be entirely in accord with what the petitioner wants and allows the DAC in conjunction with the petitioner to "work up the proposals in greater detail". In case there is any concern that agreement will not be reached between them, I will add a condition that in the absence of agreement as to the specifications for monitoring, then the matter can be referred back to me for a decision. I judge that it is highly unlikely that either the petitioner or the DAC will need to take advantage of that condition.

Removal of the Panels: the petitioner raises a valid point on the wording of the second condition I imposed:

“The solar panels should be removed from the roof at the expiry of their useful life or on being superseded by technological advances.”

The petitioner foresees that it is likely that technological advances may take place so quickly that the condition could lead to the arrays being removed prematurely and a net detrimental carbon cost associated with the panels now to be installed not having sufficient payback time and the new array adding further to the carbon cost. I agree, but not with the proposed wording which may in itself cause issues as to whether a faculty would be required for any replacement panels. I will amend the condition to read::

“The solar panels should be removed from the roof at the expiry of their useful life.”

It follows that their removal could be justified if the panels had reached the end of their useful life either because they were failing or because the benefits of newer technology would justify their removal and replacement because of the net carbon reduction gain in so doing.

His Honour Judge Leonard KC
Chancellor of the Diocese of Ely
2nd April 2023