Agenda Item No: 7

Carbon Valuation

To:	Environment and Green Investment Committee
Meeting Date:	7 July 2022
From:	Steve Cox, Executive Director, Place and Economy
Electoral division(s):	All
Key decision:	No
Forward Plan ref:	N/A
Outcome:	To update the Committee on the implementation of an internal carbon price.
Recommendation:	Accept the revised methodology for allocating a financial value to carbon emissions or savings (internal carbon price), based on updated published values from BEIS.

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1. Background

1.1 With the risk and impacts of climate change becoming more evident and the need to pay for carbon emissions emerging as a part of the cost of doing business, more organisations and governments are looking to put a price on carbon.

1.2 In June 2020, the Council's Environment and Sustainability Committee agreed to include carbon valuation in the business cases for the programme of low carbon heating projects being delivered for Council buildings.

1.3 In October 2020, this decision was extended to other projects, as the Environment and Sustainability Committee resolved unanimously to approve:

a) The Council to implement a virtual 'internal carbon price', based on the UK Government's method of using the EU Emissions Trading Scheme (ETS) price for traded emissions (such as electricity) and the Department for Business, Energy and Industrial Strategy (BEIS) forecast carbon value for non-traded emissions (such as those from heat or transport).

b) The internal carbon price to be built into all applicable business cases, updating templates where used, in order to understand how and which decisions may differ when the cost of carbon is taken into account.

1.4 Governments implement carbon pricing in two key ways - through carbon taxes or through 'cap-and-trade' or emissions trading systems. Prices currently vary significantly by region and sector. There are various ways to determine what this price should be.

1.5 Under an ETS, total applicable emissions are capped, with the cap reducing each year so that total emissions fall. Those emitting less than their allocation can sell their excess allowances to other higher emitters. Every company covered by the scheme must purchase enough allowances to cover all its emissions. The price is thus set by the market for these allowances. The biggest downside to this method is that not all emissions are included in trading schemes. The EU and UK ETSs cover emissions from electricity generation, industrial process emissions, and some aviation emissions, but do not include most transport, heating buildings, waste, agriculture, or land use. The Government estimates that around one third of UK emissions are covered by the scheme. Previously the UK participated in the EU Emissions Trading Scheme (ETS). Since Brexit, the UK has set up its own ETS, launched in January 2021.

1.6 For non-traded emissions, BEIS published forecasts of carbon values from emissions, which are based on the marginal abatement cost (MAC) required to meet UK emissions reduction targets, such as those agreed in international negotiations and the carbon budgets. In general, the forecast carbon values increase over time, reflecting that costs of measures required to meet the 2050 net zero target will be higher if left to a later date – since those emissions that are easier to abate are generally reduced first.

1.7 Internal carbon pricing (ICP) is a decision-making tool that organisations use to understand whether their carbon emission reductions targets are on track, manage their exposure to external carbon pricing schemes and guide their business decisions and investments. An internal or shadow price on carbon creates a theoretical or assumed cost per tonne of carbon emissions. This has the benefits of being able to assess the profitability of projects in different scenarios, future-proof investment decisions, stimulate ideas on how to best allocate capital in a low carbon economy, and demonstrate that giving due consideration to the risks of climate change.

1.8 The intended outcome of this report is to update members on the implementation of an ICP at Cambridgeshire County Council.

2 Main Issues

2.1 Updated carbon values. Previously, there were different prices set for emissions in the traded and non-traded sectors. There are some issues with having two different prices, particularly in cases where emissions are moved from the traded to the non-traded sector, which can sometimes lead to unintended consequences. Carbon in the traded sector was set considerably cheaper than non-traded. However, the two were projected to converge, becoming equal in 2030.

2.2 In September 2021, BEIS updated their carbon values used for policy appraisal. The new values no longer distinguish between traded and non-traded carbon (other than to say that where carbon taxes or trading schemes are used, these costs should be taken into account). It is therefore no longer appropriate or practical for the Council to use two different values for the traded and non-traded sectors.

2.3 The revised values are also significantly higher than the previous values were. The central estimate for 2022 is now £248 per tonne, whereas it used to be around £70. It is forecast to rise to £378 per tonne by 2050 (at 2020 prices). The values will be updated once every 5 years from now on.

2.4 New templates. The council's Climate Change and Energy Services team have been working with the Finance team and others to develop and update business case templates to use in order to implement our ICP. Capital Programme Board (CPB) has an established template used to discuss capital projects. A new section has now been added into this template for carbon information to sit alongside the financial budget. A draft updated version of the CPB template was introduced to Capital Programme Board in January 2022, and after testing was launched following CPB in May 2022. The revised template has the benefit of allowing carbon emissions or savings to be converted to financial values using the ICP, and uses the latest updated carbon values from BEIS.

2.5 One of the main barriers to wider implementation is that project managers may not know the volumes of carbon that their project will generate or save. In these cases other templates are available to assist with calculating (or where necessary, estimating) the likely carbon emissions or savings. For example, the Council has a template to estimate embodied carbon emissions from quantities of materials used. A guidance document is also under development to assist project managers with estimating carbon emissions.

2.6 Some further upskilling of staff may also be required and as more business cases come though, we can review the use of the template and consider whether further guidance documents and/or training is needed.

2.7 Another issue is one of timing. A project coming to CPB for the first time may be prior to detailed design work and so may not yet have enough information to be able to calculate carbon emissions. In these cases, estimates can be made based on previous similar projects which can then be revised as more detail is developed.

2.8 How to get the most benefit out of the information. Many capital projects contribute to the Council's scope 3 emissions. These include construction, highways and waste as examples. The new CPB template will help us identify carbon emissions early and enable the project team to seek to minimise or design out carbon emissions where possible. Embodied carbon in construction is complex and identifying it and valuing it are the first and second steps. Greater experience and understanding in this area could help project teams to consider different methods of construction to reduce emissions, such as use of alternative more sustainable materials.

2.9 Capturing carbon data early in the process may also help inform forecasting of the Council's carbon emissions from capital projects in future years and also inform strategic decision making. However, further work will be required to enable aggregation of forecast carbon data estimates from multiple projects.

2.10 Further work is also needed to establish how to implement an ICP for revenue projects, business as usual operations and other decisions outside of Capital Programme Board.

2.11 Understanding the carbon impact of projects and other expenditure, and the financial value of that carbon impact, will also assist with the council's move to 'Triple Bottom Line' accounting.

3 Alignment with corporate priorities

3.1 Environment and Sustainability

The report above sets out the implications for this priority in paragraphs 1.1, 1.7 and 2.8 to 2.10.

3.2 Health and Care

There are no significant implications for this priority.

3.3 Places and Communities

There are no significant implications for this priority.

3.4 Children and Young People

There are no significant implications for this priority.

3.5 Transport

There are no significant implications for this priority.

4 Significant Implications

4.1 Resource Implications

The report above sets out details of significant implications in paragraphs 1.3, 1.7 and 2.3 to 2.10. These changes will create additional work for staff which will be undertaken within existing resources.

4.2 Procurement/Contractual/Council Contract Procedure Rules Implications

There are no significant implications within this category. However, there is potential to use procurements to leverage better carbon information from contractors.

4.3 Statutory, Legal and Risk Implications

There are no significant implications within this category.

4.4 Equality and Diversity Implications

There are no significant implications within this category.

4.5 Engagement and Communications Implications

There are no significant implications within this category.

4.6 Localism and Local Member Involvement

There are no significant implications within this category.

4.7 Public Health Implications

There are no significant implications within this category.

4.8 Environment and Climate Change Implications on Priority Areas:

4.8.1 Implication 1: Energy efficient, low carbon buildings.

Positive/neutral/negative Status: positive
Explanation: Understanding the value of carbon emissions can help inform decisions for buildings to be lower carbon.

4.8.2 Implication 2: Low carbon transport.

Positive/neutral/negative Status: positive
Explanation: Understanding the value of carbon emissions can help inform decisions for vehicles and transport infrastructure to be lower carbon.

4.8.3 Implication 3: Green spaces, peatland, afforestation, habitats and land management.

Positive/neutral/negative Status: neutral
Explanation: no direct impact

4.8.4 Implication 4: Waste Management and Tackling Plastic Pollution.

Positive/neutral/negative Status: neutral

Explanation: no impact

4.8.5 Implication 5: Water use, availability and management:
Positive/neutral/negative Status: neutral
Explanation: no impact

4.8.6 Implication 6: Air Pollution.
Positive/neutral/negative Status: Neutral
Explanation: No direct impact

4.8.7 Implication 7: Resilience of our services and infrastructure, and supporting vulnerable people to cope with climate change.
Positive/neutral/negative Status: Neutral
Explanation: No direct impact

Have the resource implications been cleared by Finance? Yes
Name of Financial Officer: Sarah Heywood

Have the procurement/contractual/ Council Contract Procedure Rules implications been cleared by the LGSS Head of Procurement? Yes
Name of Officer: Clare Ellis

Has the impact on statutory, legal and risk implications been cleared by the Council's Monitoring Officer or LGSS Law? Yes
Name of Legal Officer: Fiona McMillan

Have the equality and diversity implications been cleared by your Service Contact? Yes
Name of Officer: Elsa Evans

Have any engagement and communication implications been cleared by Communications? Yes
Name of Officer: Amanda Rose

Have any localism and Local Member involvement issues been cleared by your Service Contact? Yes
Name of Officer: Sheryl French

Have any Public Health implications been cleared by Public Health?
Yes
Name of Officer: Iain Green

If a Key decision, have any Environment and Climate Change implications been cleared by the Climate Change Officer?
Not applicable.

5 Source documents guidance

5.1 Source documents

A. June 2020 Environment and Sustainability Committee meeting minutes
B. October 2020 Environment and Sustainability Committee meeting minutes
C. BEIS carbon values

5.2 Location

A. Document.ashx (cmis.uk.com)
B. Document.ashx (cmis.uk.com)
C. Valuation of greenhouse gas emissions: for policy appraisal and evaluation - GOV.UK (www.gov.uk)