PAYBACK PERIODS OF CARBON REDUCTION ACTIVITIES: CDP METHODOLOGY

Introduction to CDP data

CDP collects data from thousands of companies every year on what they are doing to reduce their emissions, via CDP’s climate change questionnaires. To support the Department for Business, Energy and Industrial Strategy (BEIS) and its mission, CDP has analyzed this data to provide estimated payback periods for a selection of carbon reducing actions/initiatives presented by BEIS on the UK Business Climate Hub. This document presents the methodology used to calculate these payback periods and illustrates some examples of payback periods from organizations who have instigated carbon reducing activities such as those promoted by BEIS.

Payback period calculation methodology

Carbon reducing actions/initiatives provided by BEIS were mapped to associated CDP categories of initiatives as described in section C4.3b of the CDP Climate Change Questionnaire. This question asks responders to ‘Provide details on the initiatives implemented in the reporting year’. For each C4.3b initiative category, responses from organizations instigating the same category of initiative were grouped together and the modal payback period (the payback period which was most reported) was used as the estimated payback period for that initiative. Please see below for an example of the range of payback periods for a carbon reducing initiative:

<table>
<thead>
<tr>
<th>Action given on SME Climate Hub</th>
<th>Mapped action in CDP Questionnaire</th>
<th>Payback period (modal)</th>
<th>Number of occurrences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Switch to LED bulbs</td>
<td>‘Lighting’ under ‘Energy efficiency in buildings’.</td>
<td>1-3 years</td>
<td>&lt;1 year 1-3 years 4-10 years 11-15 years 16-20 years 21-25 years &gt; 25 years No payback</td>
</tr>
<tr>
<td></td>
<td></td>
<td>231 707 594 66 25 9 45 53</td>
<td></td>
</tr>
</tbody>
</table>

Example payback periods of carbon reduction initiatives from CDP disclosers

- “[Voya Financial] replaced three open air refrigerated display merchandisers with three glass door merchandisers saving 50,037 kWh or $9,507.03 annually. The existing units were approaching end of life and the new refrigerated display method was selected due to its energy savings and a payback of just under 1-year.”
- “Quality Technology Services has initiated a program whereby we will plant one tree per month for every 100kW of contract that a customer signs with us. We have proprietary formulas to count the expected lease-up increase that equates to a less-than one year payback.”
- “The vast majority of projects are new LED installations and lighting retrofits in our hotel spaces, including lobbies and public areas, guest rooms, ballrooms and meeting space, restaurants, back of house, exterior and parking lighting. Overall, the lighting projects
analysed reflect a 69% [return on investment] and an average payback of 1.4 years.” – Hilton Hotels

About CDP

CDP is a global non-profit that runs the world’s environmental disclosure system for companies, cities, states and regions. Founded in 2000 and working with more than 590 investors with over $110 trillion in assets, CDP pioneered using capital markets and corporate procurement to motivate companies to disclose their environmental impacts, and to reduce greenhouse gas emissions, safeguard water resources and protect forests. Over 10,000 organizations around the world disclosed data through CDP in 2020, including more than 9,600 companies worth over 50% of global market capitalization, and over 940 cities, states and regions, representing a combined population of over 810 million. Fully TCFD aligned, CDP holds the largest environmental database in the world, and CDP scores are widely used to drive investment and procurement decisions towards a zero carbon, sustainable and resilient economy. CDP is a founding member of the Science Based Targets initiative, We Mean Business Coalition, The Investor Agenda and the Net Zero Asset Managers initiative. Visit cdp.net or follow us @CDP to find out more.

Useful links

CDP Climate Change Questionnaire
CDP Guidance
cdp.net
SME Climate Hub