

## 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:

Action given on SME Climate Hub	Mapped action in CDP Questionnaire	Payback period (modal)	Number of occurrences							
			<1 year	1-3 years	4-10 years	11-15 years	16-20 years	21-25 years	> 25 years	No pay-back
Switch to LED bulbs	‘Lighting’ under ‘Energy efficiency in buildings’.	1-3 years	231	707	594	66	25	9	45	53

Modal payback period



### 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](https://www.cdp.net) or follow us @CDP to find out more.

## Useful links

[CDP Climate Change Questionnaire](#)

[CDP Guidance](#)

[cdp.net](https://www.cdp.net)

[SME Climate Hub](#)