



Department for  
Energy Security  
& Net Zero

# Improving accessibility of tariff data for flexibility services

Analytical Annex



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# About this document

## Strategic case

In 2022 the Government consulted on proposals to require electricity suppliers to comply with a tariff data standard and make domestic electricity time-of-use-tariff (TOU) information publicly accessible. The proposal would allow energy smart appliances (ESAs) to receive and respond to tariff information and unlock tariff optimisation services which reduce consumer electricity bills and contribute to the Government's energy security and net zero policy objectives. For example, interoperable TOUs which operate in conjunction with other products and systems, such as electric vehicle chargepoints or heat pumps, can optimise consumers' electricity consumption which lowers bills and supports decarbonisation.

In 2023, the Government confirmed its intention to take forward this proposal and is consulting further on the scope and delivery approach. Responses from industry and consumer groups to the initial consultation were also supportive of a wider scope that would include making all domestic scale electricity and gas tariffs offered to domestic and small non-domestic (e.g. microbusinesses<sup>1</sup>) customers interoperable. This enables dual fuel customers to benefit from optimisation services. Such services may include advice on whether it would be cheaper to run a heat pump or gas-fired boiler for space heating, or to compare water heating costs. Therefore, the consultation proposes to extend the scope of the tariff data standard to all domestic and small non-domestic scale electricity and gas tariffs.

The Government has shortlisted several technical solutions to make energy tariff data interoperable by making them openly available over the internet. Section 1 sets out these solutions. Further details on the strategic case, rationale for intervention and objectives for interoperable tariffs policy were set out in the previous consultation<sup>2</sup> which received positive feedback from stakeholders. Therefore, they are not set out again here.

## Purpose of analytical annex

This document accompanies the interoperable tariff consultation and explores the proposed solutions further in a value for money assessment by comparing the relative costs of the options. The proposed interoperable tariffs would be introduced in phases. Therefore, the analysis focusses on the initial proposal to make domestic electricity tariffs interoperable. It presents the analysis which compares the costs of the minimum technical change option (option 1), used as a counterfactual, to the costs of the non-standardised API solution (option

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<sup>1</sup> Electricity microbusiness customers are those with an annual consumption of not more than 100,000 kWh OR fewer than 10 employees and an annual balance sheet/turnover not exceeding €2 million. Gas microbusiness customers are those with an annual consumption of not more than 293,000 kWh OR fewer than 10 employees and an annual balance sheet/turnover not exceeding €2 million. (Source: [https://www.ofgem.gov.uk/sites/default/files/docs/2019/02/licence\\_guide\\_standards\\_of\\_conduct\\_0.pdf](https://www.ofgem.gov.uk/sites/default/files/docs/2019/02/licence_guide_standards_of_conduct_0.pdf))

<sup>2</sup> BEIS (2022), <https://www.gov.uk/government/consultations/delivering-a-smart-and-secure-electricity-system-the-interoperability-and-cyber-security-of-energy-smart-appliances-and-remote-load-control>

2) and the standardised API solution (option 3), the preferred option. Government issued a formal request for information to gather data on the proposed options. The analysis draws on this evidence and further information collated from industry, external consultants, and other stakeholders.

The Government is seeking to improve the evidence underpinning this value for money appraisal in advance of a final impact assessment. Thus, Government welcomes feedback on the methodology and assumptions used in this analysis through consultation question 5.

# Glossary

Term	Description
Application Programming Interface (API)	A way for two or more computer systems to communicate with each other.
Demand Side Response (DSR)	Shifting in time and/or changing the magnitude of the electricity consumption and production of one or more devices in response to external signals.
Demand Side Response service provider (DSRSP)	An organisation providing DSR services through the aggregation of the electrical load of many small scale electrical appliances.
Energy Smart Appliance (ESA)	An electronic device which is communications enabled and capable of responding automatically to price and/or other signals by shifting or modulating its electricity consumption and/or production.
Non-standardised API	Differentiated APIs which do not follow an identical schema. Users access information and responses are 'translated' to work on their systems.
Standardised API	APIs developed consistently according to the same API schema. Users can use the responses directly on their systems.
Time-of-use-tariff (TOU)	A time-of-use-tariff changes the price of electricity over time. Typically, a supplier will charge a peak rate during the day and offer a cheaper rate overnight to encourage shifting electricity use to off-peak periods.
Third party user	A company that accesses tariff information. This includes DSR SPs and price comparison websites.
White label supplier	A company in the electricity sector that does not hold a supply licence but partners with a licenced supplier to offer tariffs under a differentiated white label brand.

# Policy options

Government has shortlisted several technical solutions for the tariff data standard. These range from solutions requiring minimal changes to electricity suppliers' current IT systems (Option 1, Counterfactual) to Application Programme Interfaces (APIs) based solutions (Options 2 and 3).

Many suppliers already provide tariff information on their websites. This information is provided in various formats and the specific information provided varies. This makes accessing the information necessary for demand side response (DSR) purposes more challenging for demand side response service providers (DSRSPs). The counterfactual option involves electricity suppliers continuing to provide tariff information on their websites but with regulations in force to provide a safety net and ensure all the appropriate information is publicly accessible.

The API based solutions require some electricity suppliers to make more substantial changes to standardise information into a common format and give third party users, such as DSR service providers, access to this data. Centralised solutions (Option 4) whereby tariff data is loaded onto an accessible central system were considered and ruled out following consultation with stakeholders who cited cost and timescale reasons in addition to concerns that storing personal data in a central database may constitute an unacceptable personal data risk.

Table 1 summarises the options considered in the analysis. The consultation is enquiring whether Government should pursue the API options. Therefore, the analysis focusses on the relative costs of delivering standardised and non-standardised APIs, over the counterfactual.

**Table 1. Policy options considered in analysis.**

Solution	Description
Option 1b (counterfactual) <sup>3</sup> . Minimum technical change	<p>Option 1a. Third party organisations would access tariff data:</p> <ul style="list-style-type: none"> <li>• Directly from a smart meter</li> <li>• Via a Consumer Access Device (CAD) or a Smart Meter Home Area Network (SMHAN).</li> <li>• Via the Data Communications (DCC) as an Other User</li> </ul> <p>Organisations would register as a DCC Other User or access via CAD/ SMHAN. Any guidance and/or regulations would need to</p>

<sup>3</sup> Options 1a and 1b are estimated to cost the same; however, 1b is estimated to take slightly longer to implement, as shown in Table 6. Therefore, 1a and 1b are analysed together in the analysis and the longer timeframe is used for prudence.

Solution	Description
	<p>be reviewed to ensure suppliers provide up to date information on the meter.</p> <p>Consumer consent required to access data or pair a CAD to the SMHAN.</p> <p>Option 1b (counterfactual). A minimum tariff data set and format (e.g., field length) would be established. Suppliers would provide tariff data on their websites using a recognised format (e.g., csv). Third parties could download this information from supplier websites using a standard.</p>
<p>Option 2a. Supplier non-standardised APIs</p>	<p>A minimum tariff data set and format would be established.</p> <p>Suppliers would store their tariffs on their IT systems and be mandated to provide access via an API but this would not be standardised. Organisations would access this from the supplier systems and ‘translate’ it for use on their own systems.</p>
<p>Option 3a (preferred option). Supplier wide standardised APIs</p>	<p>A minimum tariff data set and format would be established.</p> <p>Suppliers would store their tariffs on their IT systems and provide access via a standard API. Organisations would access this from the supplier systems for use on their own systems.</p>



# Analysis

## 2.1 Benefits

Improving accessibility of tariff data for flexibility services removes a barrier for companies to participate in the market for DSRSPs. A diverse and competitive DSRSP market will enable DSR consumer uptake, supporting electricity cost savings for all consumers. The Analytical Annex to the 2022 Smart Secure Electricity Systems consultation<sup>4</sup> presented a comprehensive assessment of market failures, rationale for government intervention and the associated benefits. Consultation respondents overwhelmingly agreed with our analysis. This section discusses specifically how these benefits can be attained through the proposals in the consultation. Quantifying the impact of tariff data interoperability on DSR uptake and electricity system costs is difficult as it is just one enabling policy amongst many. Therefore, this analysis is primarily focussed on quantifying the costs associated with the consultation proposals.

The market for DSRSPs is nascent. One barrier for new entrants is the cost of accessing tariff data from a wide range of electricity suppliers that can vary significantly by customer location. This is due to three market failures:

- Market power. Many electricity suppliers also offer DSR services. These suppliers are disincentivised to support rival DSRSPs from accessing their tariff information as this offers their electricity customers the option to contract their DSR services with rivals.
- Coordination failure. Suppliers and DSRSPs currently have no incentive or effective mechanisms to co-ordinate tariff data communication.
- Externalities. The benefits to the electricity system and consumers from maximising uptake of DSR are greater than the private benefit suppliers and DSRSPs perceive for investing in tariff data communication standards leading to underinvestment in this area.

The proposals in this consultation seek to address these market failures by standardising tariff data communication between suppliers and third party users such as DSRSPs. The removal of this barrier will lower operating costs for DSRSPs, thus enabling higher profitability for potential market participants. In combination with other factors<sup>5</sup>, this should encourage more companies to offer new or innovative DSR services. More participants will make the DSR services market more competitive leading to more attractive remuneration of consumers for participating in DSR and an increase in overall uptake.

Higher DSR uptake is a key component of achieving Net Zero at the lowest cost. DSR provides flexibility capacity to the electricity system. More system flexibility translates into cost savings for the system due to lower capital costs for generation and network infrastructure, as less

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<sup>4</sup> DESNZ (2023), <https://www.gov.uk/government/consultations/delivering-a-smart-and-secure-electricity-system-the-interoperability-and-cyber-security-of-energy-smart-appliances-and-remote-load-control>

<sup>5</sup> The availability of more shiftable domestic load through the rollout of electric vehicles and heat pumps as well as the market reforms through the Review of Electricity Market Arrangements are other key enablers of domestic DSR.

excess generation capacity can be built to manage with demand peaks. This will result in lower consumer bills. The total benefit of DSR to the UK electricity system has been estimated by the Electricity Networks Strategic Framework analysis (ENSF) to be between £40-50bn, depending on the level of low voltage capacity, by 2050 (cumulative, 2021-2050, 2020 prices)<sup>6</sup>. This is because peak demand by 2050 is 15GW lower with DSR enabled, a reduction of 5%. Therefore, the grid does not need as much reinforcement to meet peak demand.

## 2.1 Costs

### 2.2.1 Assumptions

#### **Population assumptions: suppliers and third party users**

The number of electricity suppliers in the market was provided by the domestic supplier insight service from Cornwall Insight, published in November 2023<sup>7</sup>. This shows that there were 24 suppliers and 9 white label suppliers, giving a total of 33 suppliers. In this analysis white label suppliers are included as these have their own tariffs despite not being fully licensed.

Third party users are organisations who access tariff information from suppliers and include DSRSPs and price comparison websites. The number of DSRSPs was provided by the LCP Delta flexibility provider database<sup>8</sup>. This shows there are 54 active firms in the market. Ofgem data was used to show that there are 9 Ofgem-accredited price comparison websites<sup>9</sup>. These sites access tariff information from suppliers and show the available tariffs to their users. Therefore, there are 63 third party users in total.

#### **Population assumption sensitivities**

The number of suppliers currently in the market was used directly as the central estimate (33). Volatility in the electricity market has been relatively high recently, and to take account of potential market developments in the future we derived high and low estimates for the number of suppliers. Ofgem retail market indicator data shows that over the past 20 years the number of suppliers reached a minimum of 10 and peaked at 70<sup>10</sup>. These figures were used as the low and high estimates respectively.

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<sup>6</sup> DESNZ (2022): <https://www.gov.uk/government/publications/electricity-networks-strategic-framework>

<sup>7</sup> Cornwall Insight (2023), subscription required: <https://www.cornwall-insight.com/insight-services/domestic-supplier-insight-service/>. Number of suppliers figure published with permission from Cornwall Insight

<sup>8</sup> LCP Delta (2023), subscription required: <https://delta.lcp.com/research-services/flexibility-research-service/>. Number of flexibility providers figure published with permission from LCP Delta.

<sup>9</sup> Ofgem (2023) <https://www.ofgem.gov.uk/information-consumers/energy-advice-households/switching-energy-tariff-or-supplier>

<sup>10</sup> Ofgem (2023): <https://www.ofgem.gov.uk/energy-data-and-research/data-portal/retail-market-indicators>

**Table 2. Number of suppliers sensitivities.**

Scenario	No. of suppliers	Notes
Low	10	Number of suppliers low point (December 2006)
Central	33	Number of active suppliers
High	70	Number of suppliers high point (Summer 2018)

There are 54 companies providing DSR services. Meanwhile, there are 9 Ofgem-accredited price comparison websites (PCWs). Therefore, the total number of third party users is assumed to be 63 in the central scenario. High and low estimates for the number of third party users were derived by adding and subtracting 50% to the central assumption respectively, to provide a range.

**Table 3. Number of third party users sensitivities.**

Scenario	No. of third party users	Notes
Low	32	50% of the central scenario
Central	63	Total number of DSRSPs and PCWs.
High	95	50% above the central scenario

## Costs and timescales

The costs of the technical solutions are estimated for a representative supplier and third party user. It is assumed that suppliers would make available all tariffs offered to domestic and small non-domestic customers in each policy option. Costs are divided into one off set up costs and annual ongoing costs. Set up costs are incurred over the implementation periods set out in Table 6 and the ongoing costs are incurred annually once the implementation periods have concluded. The costs for a representative supplier and third party users under each policy option are multiplied by the respective population assumptions to estimate the total policy costs. Separately, estimates of the timescales to deliver each option were produced.

DESNZ collected delivery cost and time estimates from PA consulting. Additionally, the department collated evidence from industry through a formal request for information (RFI) and direct engagement. Respondents include suppliers and DSR providers. The Government welcomes further evidence to expand our evidence base in responses to this consultation in question 5.

All costs are in 2023 prices. Costs are discounted over the appraisal period using the 3.5% Social Time Preference (STPR) provided in the HMT Green Book<sup>11</sup>.

### Cost sensitivities

The cost estimates used in this analysis are summarised in the tables below. For the cost sensitivities, the lower bound was used to produce the low cost scenario, the upper bound was used to produce the high cost scenario, and the mid-point was used as the central cost estimate.

In the central scenarios for supplier costs, the API options have relatively high upfront costs, compared to the counterfactual, as they involve changes to suppliers' existing IT systems. The cost of complying with the standardised API is estimated to be slightly more expensive (£10k) than the non-standardised API. This is because the supplier must ensure the API it builds complies with the standardised schema. Meanwhile, the ongoing costs are assumed to be the same under all policy options considered. This is because once the technical solution is set up the cost to the supplier of making the tariff data available is assumed to be the same. These estimates are shown in Table 4.

**Table 4. Illustrative cost assumptions per supplier for each policy option.**

Costs per supplier (£, thousands)	One-off set up costs <sup>12</sup>			Annual ongoing costs		
	Lower bound	Central assumption	Upper bound	Lower bound	Central assumption	Upper bound
1b. Minimum technical change (counterfactual)	100	200	300	10	80	150
2a Non-standardised APIs	50	525	1,000	10	80	150
3a Standardised APIs (preferred option)	70	535	1,000	10	80	150

The upfront costs for third party users in the central scenarios are assumed to be similar under the counterfactual and the standardised API options. This is because there is one defined process for the API user to obtain standardised tariff information. Meanwhile, the upfront costs for third party users are assumed to be relatively high as the company operates several

<sup>11</sup> HM Treasury (2022), <https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-government>

<sup>12</sup> The upfront costs are incurred over the implementation periods shown in Table 6.

varying APIs and must configure their IT systems accordingly. In the high cost scenario, the costs are estimated to be quintupled. Table 5 shows that the costs are £250k under the counterfactual and standardised API options and £1.25m under the non-standardised API option.

Table 5 shows that the annual ongoing costs for third parties are estimated to be halved for the API options compared to the counterfactual in all cost scenarios. This is because the administrative burden for third party users of accessing tariff information is significantly reduced if it is available via an API, as opposed to downloading it from supplier websites. Additionally, in the counterfactual scenario, suppliers may change how tariff information is provided on their websites and third parties incur costs to continue downloading the data. These adaptation costs are factored into the ongoing costs for third parties under the counterfactual scenario. These assumptions lead to cost savings being made over time using the API options, instead of the counterfactual. Whilst the upfront costs for suppliers are relatively high for the API options due to the necessary IT upgrades, as shown in Table 4, third party users make cost savings over time due to the reduced ongoing costs, as shown in Table 5. This represents a transfer of costs from third party users to suppliers.

The Government recognises that the ranges for many third party user costs are relatively wide and therefore highly uncertain. **We welcome more data in responses to this consultation to improve our evidence base through consultation question 5.**

**Table 5. Illustrative cost assumptions per third party user for each policy option.**

Costs per third party user (£, thousands)	One-off set up costs <sup>13</sup>			Annual ongoing costs		
	Lower bound	Central assumption	Upper bound	Lower bound	Central assumption	Upper bound
1b. Minimum technical change (counterfactual)	20	135	250	4	152	300
2a Non-standardised APIs	10	630	1,250	2	76	150
3a Standardised APIs (preferred option)	10	130	250	2	76	150

<sup>13</sup> The upfront costs are incurred over the implementation periods shown in Table 6.

## Timescales

The time to deliver each policy option, in months, is based on estimates from industry. These assumptions are used to apportion the upfront costs across the first two years and commence the apportioned ongoing costs from the correct month. Table 6 shows that, as expected, the counterfactual is the quickest option to implement as it involves the least change; meanwhile, the standardised API option takes 9 months longer to deliver than the counterfactual.

**Table 6. Estimated timescales to implement each policy option.**

Policy option	Timescales to implement (months)	Notes
1. Non-standardised APIs	20	Estimates from PA consulting.
2. Standard APIs	22	
3. Minimum technical change	13	

## 2.2.2 Methodology

### Approach

The cumulative total costs of the API options are initially higher than the costs of the counterfactual, in the central scenario, due to the relatively high upfront costs incurred by suppliers when upgrading the IT systems. However, the annual ongoing costs are much lower for third party users under the API options, relative to the counterfactual. Meanwhile, the ongoing costs are assumed to be the same for suppliers across all options considered. Therefore, the cumulative total costs of the counterfactual option rise more steeply than those for the API options. This analysis aims to estimate the time until the cumulative total costs of each API option is equal to that for the counterfactual. This is referred to as the break-even point. The net costs to business are negative (a net benefit) even without consideration of the electricity system benefits discussed before. Therefore, the quantitative analysis focusses only on the appraisal of costs to business.

The steps to calculate the costs for delivering each option, and the break-even point, are described below.

### Calculations

The analysis provides results for a given set of scenarios for the supplier costs, third party user costs, supplier population and third party user population.

The upfront costs for suppliers and third party users are apportioned over the implementation period. For example, the supplier upfront costs for the counterfactual option in the central scenario are estimated to be £200k, as shown in Table 4. The counterfactual is estimated to

take 13 months to implement, as shown in Table 6. Therefore, 12/13 of the upfront costs are incurred in year 1 and the rest is incurred in year 2.

Similarly, the annual ongoing costs for suppliers and third party users are apportioned over the set-up phase. Ongoing costs are assumed to commence immediately after the upfront costs are incurred and are pro-rated in the first year of operation. For example, the supplier ongoing costs under the counterfactual option in the central scenario is £80k, as shown in Table 4. The counterfactual option takes 13 months to implement. Therefore, 11/12 of the ongoing costs are incurred in the second year after implementation, before the full ongoing costs are incurred each year.

The total discounted cumulative costs for suppliers and third party users are calculated for each year of the appraisal period. These costs are summed to calculate the total discounted cumulative cost of each option over time. The point at which the cost of the counterfactual exceeds the API option is referred to as the break-even point. In other words, when the counterfactual costs are subtracted from the API option costs and this leads to a negative result for the first time, the cost of the API option has broken even with the counterfactual. The time taken to reach this point is referred to as the payback period. Beyond this point the costs of the API option are less than the cost of the counterfactual, so the cost difference is negative and there is a net benefit.

# Results

## 3.1 Headline results

This section analyses the results for the central scenario<sup>14</sup>. The charts in this section show the cumulative costs of the API options (Options 2 and 3) over the first 15 years of the scheme relative to the counterfactual. The cumulative costs of the counterfactual exceed the costs of both API options within the first 15 years. This means that the introduction of APIs results in a net benefit to business after a certain period of time (break even point).

The upfront costs for suppliers under the API options are £325k-£335k higher than the counterfactual due to the costs of upgrading IT systems. However, the ongoing costs for suppliers are assumed to be £80k under the counterfactual and API options.

The upfront costs for third party users are nearly 5 times as high for the non-standardised API (£630k) solution than the standardised API option (£130k) as each user must interact with several different supplier APIs. The upfront costs for third party users under the counterfactual (£135k) and the standardised API option (£130k) are broadly similar. However, the ongoing costs for third party users are 50% less under the API options than the counterfactual. This is because the administrative burden of obtaining tariff information via an API is reduced in comparison to the counterfactual process.

These cost implications mean that the cumulative total costs of the API options are relatively high at the start of the appraisal period, compared to the counterfactual option. However, the decrease in third party user ongoing costs is significant and, over time, the cumulative total cost of the API options breaks even with the counterfactual option.

The ongoing costs for third party users under the API options are the same (£76k); however, the upfront costs for the standardised API option (£130k) are lower than for the non-standardised API option (£630k) as the third party user IT systems must be set up to interact with several different APIs. Therefore, the standardised API option breaks even with the counterfactual before the non-standardised API option. Figure 1 shows how the standardised API option breaks even after just over 2 years whilst the non-standardised API option breaks even after 10 years. Beyond these break-even points the cost differences are negative as the total cumulative costs of the API options are less than the counterfactual costs. This represents savings as a result of using APIs. The initial spike in costs in years 1 and 2 is due to the incursion of the upfront set up costs before the savings materialise.

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<sup>14</sup> The central scenario uses the central assumptions for the supplier costs, third party user costs, supplier population and third party user population.



**Figure 1. Total cumulative costs of the API options minus the counterfactual costs over the first 15 years following implementation in the central scenario (£m, discounted).**

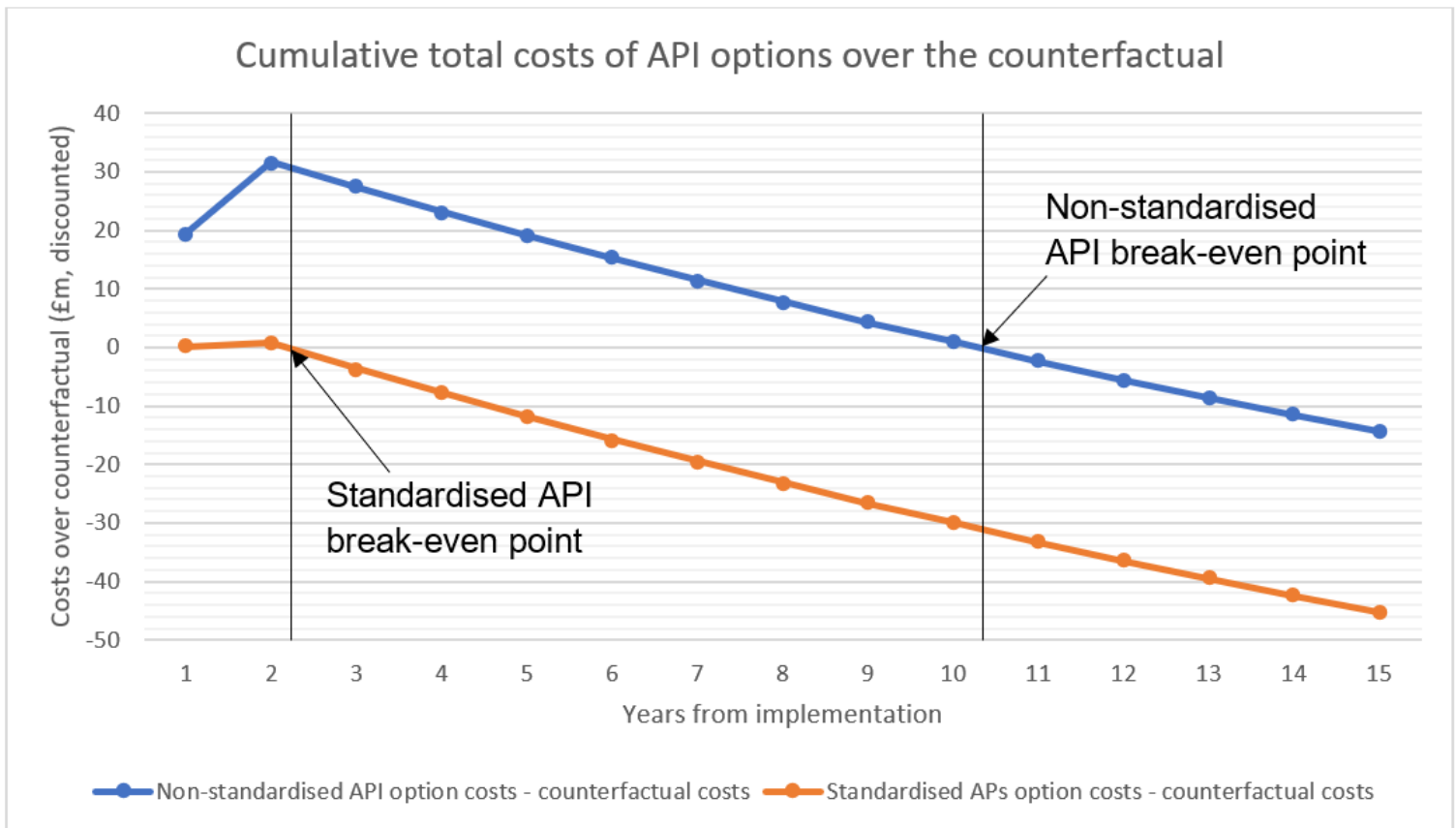


Figure 2 in the Annex illustrates the cost dynamics using a stacked bar chart. After 2 years, the total cumulative cost of the standardised API and the counterfactual is £25m. However, over half of these costs are incurred by suppliers in the API option; meanwhile, over half of the costs are incurred by third party users in the counterfactual scenario. Beyond the second year after implementation, the total cumulative costs of the standardised API option are less than those for the counterfactual. Total cumulative costs for suppliers are greater under the API option than the counterfactual; however, these additional costs are more than offset by third party user savings. Therefore, the cost savings produced by the APIs increase indefinitely. Figure 2 shows that 15 years after implementation, the total cumulative costs of the standardised and non-standardised API options are £46m and £14m less than the costs of the counterfactual (£142m) respectively. These savings will continue to increase beyond this period.

Figure 2 also shows that the total cumulative cost of the non-standardised API option is equal to that of the counterfactual after approximately 10 years. However, in the 10<sup>th</sup> year, the costs for suppliers are £10m greater under the non-standardised API option than the counterfactual. After this year, total cumulative costs of the non-standardised API are less than those for the counterfactual by an indefinitely increasing margin. For example, in the 11<sup>th</sup> year, total cumulative costs are £3m less under the non-standardised API option than the counterfactual. The savings grow continuously over time.

Additionally, the results show that the total cumulative cost of the standardised API option is the lowest over time. Additionally, the payback period is shorter than for the non-standardised API. Therefore, the standardised API solution is the preferred option, purely from a cost perspective.

## 3.2 Sensitivity analysis

Adjusting the supplier and third party user costs and population scenarios affects the payback period due to the changes in cost dynamics. These are summarised in Table 7.

**Table 7. Payback period sensitivities.**

Supplier costs	Third party user costs	Supplier population	Third party user population	Years to break even (non-standardised)	Years to break even (standardised)
Central	Central	Low	High	8	1
Central	Central	High	Low	20	9
High	High	Central	Central	10	2
Low	Low	Central	Central	0	0

When the third party user population is high, there are many businesses benefitting from the savings. Meanwhile, if the supplier population is low, only a small group of suppliers are incurring API set up costs. Consequently, the payback periods for the non-standardised and standardised API options are only 8 years and 1 year respectively. Conversely, if the third party user population is low and the supplier population is high, user savings are relatively low and supplier set up costs are high. As a result, payback periods for non-standardised and standardised APIs are extended to 20 years and 9 years respectively. This is the most pessimistic scenario.

If the supplier and third party user costs are low the API options break even with the counterfactual in the first year. This is the most optimistic scenario. This result is driven by the fact that, in the low cost scenario, the set up costs for suppliers and third party users under the API options are lower than under the counterfactual. Table 4 shows that the lower bound for supplier set up costs is £100k under the counterfactual and £50k-£70k under the API options. Table 5 shows that the set up costs for third party users are double (£20k) for the counterfactual than they are for the API options (£10k). Government has based these lower bound assumptions on the best available evidence; however, we welcome further data to corroborate this.

Table 7 shows that when supplier and third party user costs are both high the payback periods for non-standardised and standardised API solutions are 10 years and 2 years respectively.

## Conclusions

The analysis shows that the cumulative total costs of the standardised API option (option 3a) and non-standardised API solution (option 2a) are lower over time than those for the counterfactual (option 1b). In other words, suppliers and third party users, collectively, would face lower costs with the introduction of APIs than without. It presents a net benefit even without taking into account the wider benefits DSR will deliver to the electricity system.

This result is driven by the decrease in third party user costs which more than offsets the initial spike in supplier upfront costs for IT upgrades.

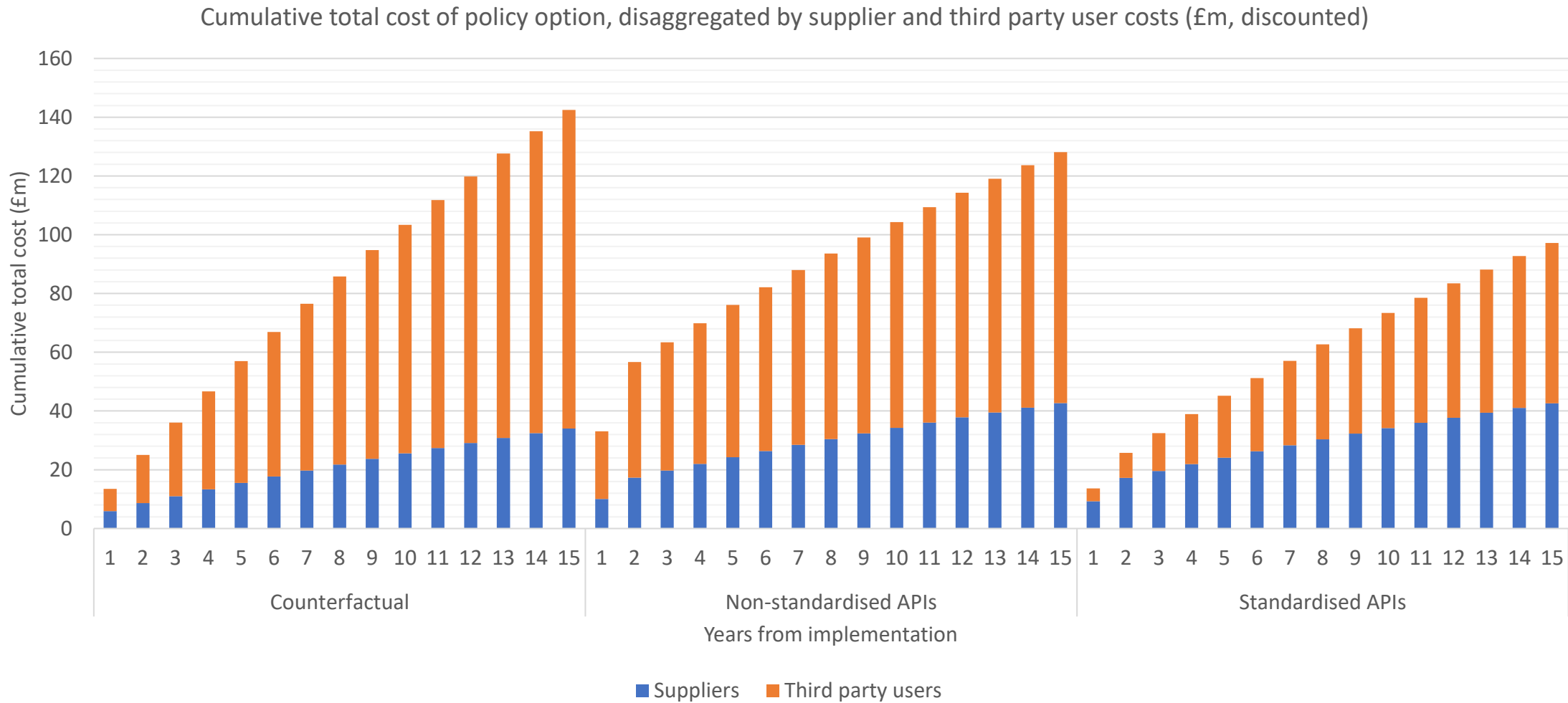
The standardised API solution (option 3a) has lower upfront costs for third party users than the non-standardised approach (option 2a) as third parties do not have to operate varied APIs. Therefore, the payback period for the standardised API solution is relatively shorter.

In light of the above, the standardised API solution (option 3a) is the Government's preferred option for making all domestic scale electricity and gas tariffs publicly accessible, purely from a cost perspective. The API implementation and delivery strategy, including whether to use gateways, will be agreed with stakeholders if this initial proposal to use APIs is supported.

We will continue to develop this value for money appraisal. We appreciate feedback our methodology and assumptions using consultation question 5.

# Annex

**Figure 2. Disaggregated cumulative total costs of policy options in the central scenario (£m, discounted).**



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