Final Water Resources Management Plan 2024

Appendix 7C – WRSE Defra Demand Saving Profile Technical Note (Gov Lead Interventions)

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Government demand management savings and implementation profiles

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Introduction

1.1 This document outlines the rationale and values that are proposed to account for the benefits that may be provided by government initiatives on demand management. This focuses on the water efficient labelling that has already been announced by DEFRA, and the potential for minimum standards in water using goods that could be introduced in the future to support national targets.

Data Sources Used

1.2 Water efficient labelling systems (WELS) were identified in the Water UK 'Pathways to Long-Term PCC Reduction' report as the most significant and cost beneficial approach to demand management. The report was written in 2019, but most of the information used in relation to water efficient labelling was ultimately sourced from the Energy Savings Trust (EST) report 'Independent review of the costs and benefits of water labelling options in the UK', which in turn largely relied on the ISF 2015 report 'Evaluation of the Environmental Effects of the WELs Scheme'1. That report was particularly valuable, as Australia has documented, empirical evidence of the benefits of WELs schemes from its large-scale introduction in 2006.

1.3 The ISF study initially evaluated the benefits at the 2012/13 point but was updated to the 2017/18 point in a further paper published in 2020. The 2020 version of the study included a review of mandatory government led initiatives elsewhere but found that these could not be readily used to quantify the population level benefits from such initiatives. Other international data sources (i.e. from outside of the UK) have not therefore been used in this paper.

1.4 Along with the academic studies, the Australian water sector also publishes empirical data on trends in per capita consumption. Water consumption reports published by the Melbourne water companies and Sydney Water have therefore been used as up to date empirical evidence to test the findings of the ISF report.

1.5 Both the Water UK and EST reports contained some assessment of the potential benefits from translating the Australian case study into the UK context, which has also been considered within this paper.

Data Outputs

ISF Study

1.6 The 2015 report was undertaken on behalf of the Australian Government to review the effects that WELS has had on water consumption, energy, greenhouse gas emissions & the household bill.

[1] Institute for Sustainable Futures, University of Technology Sydney.

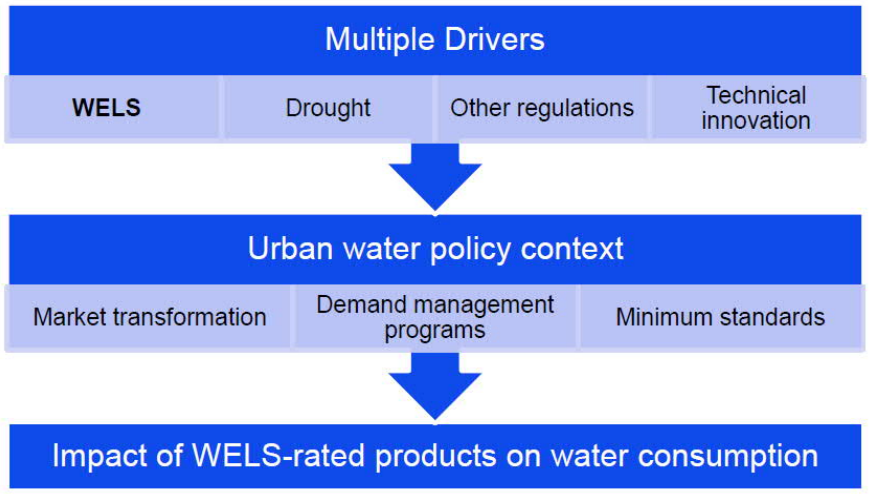
1.7 The study summarises an analysis of interactions between the WELS Scheme and other complementary policy and planning instruments and discusses changes in products as a result of WELS.

1.8 Products and water-using devices, such as those listed above, were seen to be becoming more efficient with time. This can be seen looking at the ratings assigned to product available, which moves from the majority being low scoring in the early years of WELS introduction to a larger percentage uptake of higher rated devices in the 2010's.

1.9 An example of this is top-loading clothes washing machine ownership above a 3.5 star rating, which in 2007 was 14.9%, and in 2013 increased to 50.71%. Similarly, dishwasher ownership above a 3 star rating in 2007 was 17.8% and by 2013 this had increased to 82.71%.

1.10 The 2020 update (incorporating data up to 2017/18) makes it clear that the study has taken a broad view of the schemes and the results presented are reductions driven by WELS and other associated measures. Figure 1 demonstrates the range of drivers that have led to the reductions this includes "*WELS, the Millennium Drought, other building and plumbing regulations and technical innovation have all played a part in shifting the urban water policy context. The change in context has seen plumbing fixture and appliance markets transformed; large scale demand management programs run, thus incentivising more efficient products and minimum water efficient standards on some products.*"

Figure 1: The range of drivers that have led to water savings in Australia



1.11 The estimates of water saved from the ISF study at the 2012/13 point (2015 report) were circa 70GL/annum, increasing to 112GL/annum by the 2017/18 point, as reported in the 2020 report (i.e. 60% increase in the second 5 years compared with the first 6 years of the scheme). The savings were evaluated using a model trained on published consumption data. The outputs from this model are replicated in Figure 1 below. The 2020 paper by ISF suggests final savings in the order of 231 GL/annum could be achieved by 2036/37.

1.12 It should be noted that this model only incorporates internal use, which is why the per household consumption (PHC) starts at just 350l/hh/d. With external use, data from Melbourne Water (see below) suggests that PHC at the turn of the millennium would have been in the order of 650l/h/d (based on an assumed occupancy rate of 2.6, taken from the Australian Bureau of Statistics). This implies that almost half of Australian household demand was external in the year 2000.

1.13 Figure 2 shows the outputs of the model used in the 2015 report, which was updated to support the figures quoted above for the 2020 report. The savings net of underlying trends are provided in Figure 3.

Figure 2 UST 'WELs' Water Savings Model

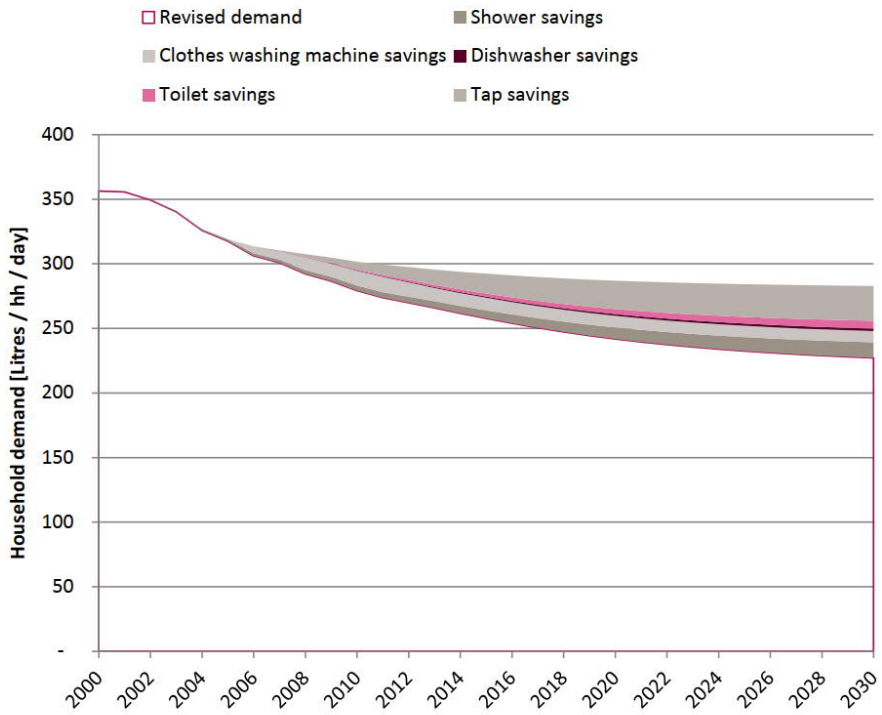
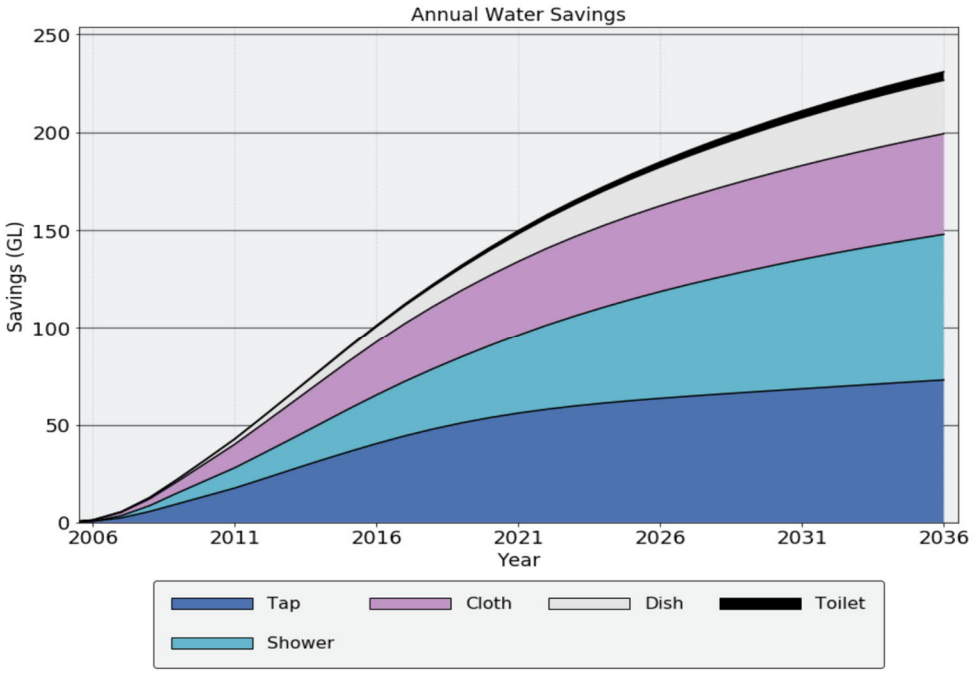


Figure 3 Water Savings Associated with Australian Governmental Initiatives Relating to WELs Usage.



1.14 Based on the savings quoted in the 2020 report, divided by the population of Australia in 2012 (23m) and 2018 (25m), this implies savings of circa 8 l/h/d by 2013, and 12 l/h/d by 2018. Based on an ongoing growth rate of 1.2% population, the final savings estimated by ISF would be around 19 l/h/d by 2036 (this figure reconciles with the figures quoted in the 2020 report). It should be noted that the 2020 report makes it clear that the 'WELs' saving model refers to the water using devices that are covered by the WELs scheme, but includes all savings achieved through demand management, background device innovation and publicity campaigns associated with the millennium drought. It does not attempt to isolate the benefits from the labelling system alone.

Melbourne and Sydney Water Reported Data

1.15 Annual outturn PCC figures from the greater Melbourne and Sydney areas are provided in Figures 4 and 5 below.

Figure 4 Per capita Consumption Outturn Figures for Melbourne Water Area.

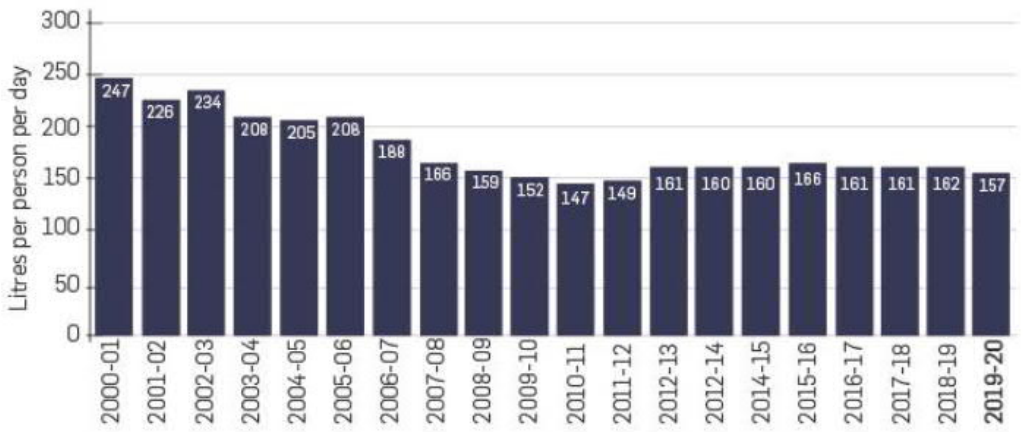
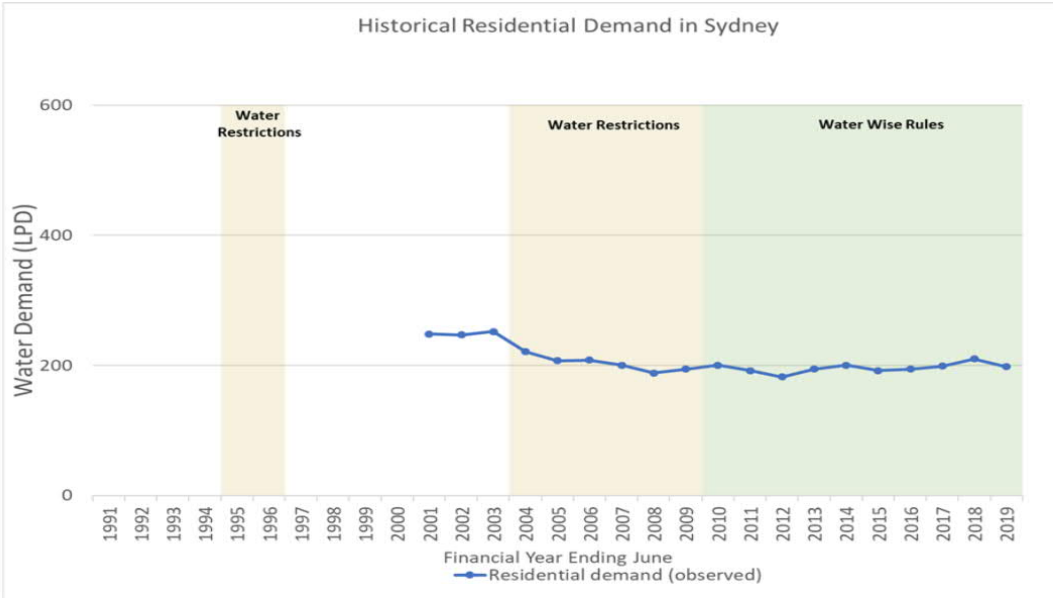


Figure 5 Per capita Consumption Outturn Figures for the Sydney Water Area.



1.16 The figures above show that patterns for both initial demand levels and reductions from the 2006 to 2017 position were similar across the two urban regions, although they are smaller in Sydney. For Melbourne the overall reduction is in the order of 30 l/h/d, whereas for Sydney they are less than 10 l/h/d. In both cases this includes both internal (WELs model) use, and external use.

1.17 Both data sets show very little change in PCC since the end of water restrictions after the millennium drought (i.e. since the early to mid 2010s), with a rising trend evident in Sydney. The Sydney Water conservation report makes it clear they are actively pursuing demand management initiatives, such as the 'WaterFix' and 'PlumbAssist' programmes, accompanies by wider scale educational campaigns.

Water UK and EST Reports

1.18 The EST study put forward a selection of 'scenarios' to consider under a benefit analysis. Selecting three to discuss; scenario 1 reflected the mandatory government-led (i.e. WELS), scenario 2 similarly was government-led but included a setting of minimum standards (best performing with regards to reductions in water usage) and scenario 6 involved a voluntary industry-led water labelling programme (the worst performing scenario).

1.19 EST suggest the savings between the best (Scenario 2) and the worst (Scenario 6) would allow for a saving of between 8,316Ml (scenario 6) to 160,324Ml (scenario 2) over a 10 year period. The EST report translates the 10 year saving associated with scenario 2 into a 6.3 litre/head/day (PCC) saving. It then forecasts this could rise to 31.4l/h/d after 25 years, but much of this is associated with the introduction of mandatory minimum standards.

1.20 The Water UK report contains two scenarios – a labelling only approach and a labelling with minimum standards. This estimates savings of:

- Labelling only: 4-6l/h/d after 10 years, with 11 to 15l/h/d after 25 years.
- Labelling with minimum standards: 9-12 l/h/d after 10 years, with 23 to 31 l/h/d after 25 years.

1.21 Both reports highlight the difference in demand and the market for water using devices in the U.K. in comparison to Australia. The Water UK study also indicates a high degree of overlap with demand management initiatives such a s those contained within the WRSE 'high' company led scenarios, with >50% overlap between labelling and home visits plus initiatives to address 'leaky loo' customer side losses. In addition, whilst the Water UK report indicates that it allows for overlaps between initiatives in the modelling scenarios, it does not explicitly allow for the fact that turnover in water using device ownership will tend to improve efficiency regardless of labelling/minimum standards, so there is no explicit allowance for the overlap. It does, however, mention such issues when deriving the uncertainty ranges and it is clear that this type of issue contributes to the low confidence grade given to the assessed savings.

1.22 In light of the uncertainties around water efficient labelling, the Water UK assigned the savings a low confidence grade ('C'). The report also recommended an adaptive approach, whereby different levels of governmental support are best examined as key components of different 'futures' within an adaptive pathways framework.

Savings resulting from Government interventions

1.23 Most of the sources reviewed indicate that water labelling should generate substantial savings in PCC, although the Australian studies show this is difficult to separate from other initiatives that have been ongoing at the same time as water efficient labelling. The ISF study estimates a saving on total water usage of around 6% for all of the water saving initiatives in the home instigated between 2006 and 2018 (12l/h/d with an initial starting point of around 200l/h/d).

1.24 The ISF figures seem reasonable as a national average for Australia based on the Melbourne and Sydney water outturn PCC data, which indicate a range of between 10 l/h/d and 30l/h/d reduction over that time period, which includes reductions in external usage.

1.25 If this is translated to the UK, with a current average PCC of around 150 l/h/d, then this lends support to the EST estimate of 6.3. l/h/d and the Water UK estimates of 4-6l/h/d as the gross impact of water labelling after 10 years. However, that does not account for the overlap with company led initiatives to install water efficient devices in the home, or the underlying uptake of water efficient devices which is already included in water company baseline forecasts. Based on the level of overlap indicated in the Water UK study, a reliable estimate of the net estimated benefit of water labelling would appear to be in the order of 2-4 l/h/d after 10 years.

1.26 For the purposes of WRSE modelling, the longer-term savings indicated in the EST and Water UK report appear to be highly uncertain. More recent data from Australia would indicate that there is no evidence that benefits from WELs have continued to accrue since 2015, and the trend of demand overall has not followed the anticipated trajectory outlined in the ISF report. It is notable that Melbourne Water is running its long-term strategy as 'target 155', which is only just below the circa 160l/h/d run rate it is currently experiencing. The level of longer-term savings that Water UK and EST propose, where final savings are more than double the 10 year level, do not therefore appear plausible given this newer empirical evidence.

1.27 Given the lack of obvious progress in Australia since the early to mid 2010s, and the findings of the 2020 ASF report, which makes it clear there are a number of other inputs to the 12 l/h/d saving in 2018, it is therefore proposed that WRSE adopt an evidence-based approach to the longer-term benefits offered by the water labelling only scenario, with a 'reliable' net allowance of 6l/h/d after 25 years. The minimum standards introduced in Australia to date are actually quite limited, so there remains an unknown potential for benefits from schemes that substantially regulate against the manufacturing of less efficient goods. It is proposed that a 'reliable' long term value of 12l/h/d is therefore used for water labelling with minimum standards. Given the uncertainty, and the unknown potential for innovation/societal change that a minimum standards approach could bring, combined with the potential for initiatives such as net zero consumption new developments, it is recommended that a stretch benefit of 24l/h/d for a 'maximum support' government led scenario is tested and incorporated into the adaptive panning. This is aligned with the adaptive approach recommended by Water UK.

1.28 Based on the above data, the scenarios outlined in Table 1 below are proposed for the net benefits of government led initiatives in the initial planning for WRSE. It should be noted that these scenarios

are reflective of better information that is now available, and a recognition that water company led initiatives are likely to have a significant overlap with the benefits quoted from the Australian studies. The updated values should not be seen as a critique on the original Water UK report.

Table 1: Recommended Scenarios for WRSE Government Led Demand Management

Scenario	Saving After 10 Years (l/h/d - net PCC benefit beyond company initiatives)	Saving after 25 years (l/h/d - net PCC)
Water Labelling (no minimum standards)	3	6
Water Labelling (with minimum standards) – reliable estimate	6	12
Full government support (optimistic for water labelling with minimum standards, plus enhanced support on new developments)	9	24

Water company savings from Government implementation strategies

1.29 In the previous chapters the amount of water that can be saved through government interventions has been set out.

1.30 Southern Water and Thames water have already committed to ambitious water efficiency campaigns. These campaigns are intended to reduce household consumption through behavioural changes and use of more efficient appliances in the house. Therefore, these two companies have reviewed the savings that would occur from government interventions. The final savings anticipated for all six companies are set out in the table below:

	Saving After 10 Years (l/h/d - net PCC benefit beyond company initiatives)			Saving after 25 years (l/h/d - net PCC)		
Scenario	WRSE Change	TW Change	SWS change	WRSE Change	TW Change	SWS change
Water Labelling (no minimum standards)	3	0	0	6	0	0
Water Labelling (with minimum standards) – reliable estimate	6	3	0	12	6	0
Full government support (optimistic for water labelling with minimum standards, plus enhanced support on new developments)	9	6	0	24	18	0

1.31 No additional savings from the Government have been attributed to Southern Water. The table also sets out the transition of savings after 10 and 25 years following the implementation of the government policy. For the purpose of the regional plan, it is assumed that the savings from water labelling, which is now a Government policy, will occur from 2025 onwards.

1.32 Within the regional plan WRSE have and will test different implementation strategies for the government interventions. These strategies transition from one government strategy to another over a defined period. The time it takes to transition from one strategy to another strategy will be dependent on the level of promotion and implementation by third parties.

1.33 The government-based strategies that will be tested in the WRSE investment plan as part of the development of the regional best value plan are:

- Hybrid government scenario A: low until 2040 and medium from 2060 (interim between 2040 to 2060)
- Hybrid government scenario B: low until 2040 and medium from 2060 and high from 2080 (interim between 2040 to 2060 to 2080)
- Hybrid government scenario C: low until 2040 and medium from 2050 and high from 2060 (interim between 2040 to 2050 to 2060)
- Hybrid government scenario D: 110 PCC across the region by 2050 through Government interventions by transitioning from low to medium and then high to allow the target to be met (Low from 2025; medium by 2040; high by 2075)
- Hybrid government scenario E: 110 PCC across the region by 2040 through Government interventions by transitioning from low to medium and then high to allow the target to be met (Low from 2025; medium by 2035; high by 2050)
- Hybrid government scenario F: Low government savings by 2030 and medium by 2040.
- Hybrid government scenario G: Low government savings by 2030 and high by 2040.

1.34 Typically, the length of time required to expect to see the full government interventions reach their maximum effectiveness has been assumed to be 10 years for water labelling and 15 years for the more challenging medium and high government interventions. The timescales for the medium and high government implementations provides sufficient time for the policies to work through local plans and their policy positions as well as the move in the marketplace to producing more efficient white goods.

1.35 However, to achieve the scenarios D to G the time to achieve full implementation had to be reduced for the medium and high demand management strategies to 10 years to generate the savings required within the timeframes stated. This introduces an additional risk around implementation. It also means that the medium demand savings would typically have to be introduced by 2030 at the latest for scenarios D, F and G.

1.36 For scenario E, 110 PCC by 2040, the government would have to implement a policy to achieve the demand management savings by 2025. This is scenario is considered unrealistic as it is unlikely that the Government could implement such a strategy within the extremely short timeframe but is included for illustrative purposes.

1.37 The PCC reduction profiles are included in appendix A.

1.38 It is recommended that the government intervention strategies are reviewed and signed off by the companies for implementation in the regional plan.

Appendix A: PCC reduction profiles associated with different Government scenarios.

Government led demand scenarios

Definition of a year >>> 2025 meas the financial year statring April 2025 to Mar 2026

Untis in the tables below are l/h/d

	Saving After 10 Years (l/h/d - net PCC benefit beyond company initiatives)			Saving after 25 years (l/h/d - net PCC)		
Scenario	WRSE Change	TW Change	SWS change	WRSE Change	TW Change	SWS change
Water Labelling (no minimum standards)	3	0	0	6	0	0
Water Labelling (with minimum standards) – reliable estimate	6	3	0	12	6	0
Full government support (optimistic for water labelling with minimum standards, plus enhanced support on new developments)	9	6	0	24	18	0

Scenarios

Hybrid government scenario A: low until 2040 and medium from 2060 (interim between 2040 to 2060)
Hybrid government scenario B: low until 2040 and medium from 2060 and high from 2080 (interim between 2040 to 2060 to 2080)
Hybrid government scenario C: low until 2040 and medium from 2050 and high from 2060 (interim between 2040 to 2050 to 2060)
Hybrid government scenario D: 110 pcc across the region by 2050 through Government interventions by transitioning from low to medium and then high to allow the tagrget to be met (Low from 2025; medium by 2040; high by 2075)
Hybrid government scenario E: 110 pcc across the region by 2040 through Government interventions by transitioning from low to medium and then high to allow the tagrget to be met (Low from 2025; medium by 2035; high by 2050)
Hybrid government scenario F: Low government savings by 2030 and medium by 2040.
Hybrid government scenario G: Low government savings by 2030 and high by 2040.

Water savings profile generator

Key
ISD >>> Implementation start date. This is the year when the policy is implemented.
TTFI >>> Time to full implementation. This refers to the length of time that the savings from the policy are fully realised
MSD >>> Maximum savings date. This is the year that all of the pcc reductions would occur by. It is a calculated field which adds the ISD year with the TTFI number

Profile 1: This profile sets out the savings that accumulate from the minimum standards form the ISD year at a rate of Savings Per Year (SPYr)

Years

Policy assumptions		Savings	S.p.Yr.	Company	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099
ISD >>>	2025	6	1.2	Affinity	0.0	1.2	2.4	3.6	4.8	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
TTFI >>>	5	6	1.2	Portsmouth	0.0	1.2	2.4	3.6	4.8	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
MSD >>>	2030	6	1.2	SES	0.0	1.2	2.4	3.6	4.8	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
		6	1.2	SEW	0.0	1.2	2.4	3.6	4.8	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
		0	0	SWS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		0	0	Thames	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Profile 2: This is a composite profile which incorporates the savings from profile 1. At the ISD date the savings per year accumulate at the medium profile rate (SPyr)

Years

Policy assumptions		Savings	S.p.Yr.	Company	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099
ISD >>>	2030	12	2.4	Affinity	0.0	1.2	2.4	3.6	4.8	7.2	9.6	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
TTFI >>>	10	12	2.4	Portsmouth	0.0	1.2	2.4	3.6	4.8	7.2	9.6	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
MSD >>>	2040	12	2.4	SES	0.0	1.2	2.4	3.6	4.8	7.2	9.6	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
		12	2.4	SEW	0.0	1.2	2.4	3.6	4.8	7.2	9.6	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
		0	0	SWS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		6	1.2	Thames	0.0	0.0	0.0	0.0	0.0	1.2	2.4	3.6	4.8	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0

Profile 3: This is a composite profile which incorporates the savings from profile 2. At the ISD date the savings per year accumulate at the high profile rate (SPYr)

Years

Policy assumptions		Population	Savings	S.p.Yr.	Company	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099
ISD >>>	2030	4,634,308	24	4.8	Affinity	0.0	1.2	2.4	3.6	4.8	9.6	14.4	19.2	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
TTFI >>>	10	872,102	24	4.8	Portsmouth	0.0	1.2	2.4	3.6	4.8	9.6	14.4	19.2	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
MSD >>>	2040	824,360	24	4.8	SES	0.0	1.2	2.4	3.6	4.8	9.6	14.4	19.2	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
		2,813,722	24	4.8	SEW	0.0	1.2	2.4	3.6	4.8	9.6	14.4	19.2	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
		2,978,421	0	0	SWS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		12,199,151	18	3.6	Thames	0.0	0.0	0.0	0.0	0.0	3.6	7.2	10.8	14.4	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
					Populated weigthed regional average pcc reduction profile	0.0	0.5	0.9	1.4	1.8	5.4	9.0	12.6	16.2	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1

Use the scenario generator above and copy and paste the profiles into the scenarios below

Years

Company	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099
Affinity	0	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3	3.2	3.4	3.6	3.8	4	4.2	4.4	4.6	4.8	5	5.2	5.4	5.6	5.8	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Portsmouth	0	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3	3.2	3.4	3.6	3.8	4	4.2	4.4	4.6	4.8	5	5.2	5.4	5.6	5.8	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
SES	0	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3	3.2	3.4	3.6	3.8	4	4.2	4.4	4.6	4.8	5	5.2	5.4	5.6	5.8	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
SEW	0	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3	3.2	3.4	3.6	3.8	4	4.2	4.4	4.6	4.8	5	5.2	5.4	5.6	5.8	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
SWS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thames	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Region																																																																												

Scenario: Water Labelling (with minimum standards) – reliable estimate

Years

Company	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099
Affinity	0	0.6	1.2	1.8	2.4	3	3.6	4.2	4.8	5.4	6	6.4	6.8	7.2	7.6	8	8.4	8.8	9.2	9.6	10	10.4	10.8	11.2	11.6	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
Portsmouth	0	0.6	1.2	1.8	2.4	3	3.6	4.2	4.8	5.4	6	6.4	6.8	7.2	7.6	8	8.4	8.8	9.2	9.6	10	10.4	10.8	11.2	11.6	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
SES	0	0.6	1.2	1.8	2.4	3	3.6	4.2	4.8	5.4	6	6.4	6.8	7.2	7.6	8	8.4	8.8	9.2	9.6	10	10.4	10.8	11.2	11.6	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
SEW	0	0.6	1.2	1.8	2.4	3	3.6	4.2	4.8	5.4	6	6.4	6.8	7.2	7.6	8	8.4	8.8	9.2	9.6	10	10.4	10.8	11.2	11.6	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
SWS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thames	0	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3	3.2	3.4	3.6	3.8	4	4.2	4.4	4.6	4.8	5	5.2	5.4	5.6	5.8	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6

Scenario: Full government support (optimistic for water labelling with minimum standards, plus enhanced support on new developments)

Years

Company	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099
Affinity	0	0.9	1.8	2.7	3.6	4.5	5.4	6.3	7.2	8.1	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Portsmouth	0	0.9	1.8	2.7	3.6	4.5	5.4	6.3	7.2	8.1	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
SES	0	0.9	1.8	2.7	3.6	4.5	5.4	6.3	7.2	8.1	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
SEW	0	0.9	1.8	2.7	3.6	4.5	5.4	6.3	7.2	8.1	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
SWS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thames	0	0.6	1.2	1.8	2.4	3	3.6	4.2	4.8	5.4	6	6.4	6.8	7.2	7.6	8	8.4	8.8	9.2	9.6	10	10.4	10.8	11.2	11.6	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18

Scenario: Hybrid government scenario A: low until 2040 and medium from 2060 (interim between 2040 to 2060)

Years

Company	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099
Affinity	0	0.4	0.8	1.2	1.6	2	2.4	2.8	3.2	3.6	4	4.4	4.8	5.2	5.6	6.4	7.2	8	8.8	9.6	10.4	11.2	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
Portsmouth	0	0.4	0.8	1.2	1.6	2	2.4	2.8	3.2	3.6	4	4.4	4.8	5.2	5.6	6.4	7.2	8	8.8	9.6	10.4	11.2	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
SES	0	0.4	0.8	1.2	1.6	2	2.4	2.8	3.2	3.6	4	4.4	4.8	5.2	5.6	6.4	7.2	8	8.8	9.6	10.4	11.2	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
SEW	0	0.4	0.8	1.2	1.6	2	2.4	2.8	3.2	3.6	4	4.4	4.8	5.2	5.6	6.4	7.2	8	8.8	9.6	10.4	11.2	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
SWS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thames	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.8	1.2	1.6	2	2.4	2.8	3.2	3.6	4	4.4	4.8	5.2	5.6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6

Scenario: Hybrid government scenario B: low until 2040 and medium from 2060 and high from 2080 (interim between 2040 to 2060 to 2080)

Years

Company	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099
Affinity	0	0.4	0.8	1.2	1.6	2	2.4	2.8	3.2	3.6	4	4.4	4.8	5.2	5.6	6	6	6	6	6	6.8	7.6	8.4	9.2	10	10.8	11.6	12	12	12	12	12	12	12	12	12	12	12	12	12	13.6	15.2	16.8	18.4	20	21.6	23.2	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Portsmouth	0	0.4	0.8	1.2	1.6	2	2.4	2.8	3.2	3.6	4	4.4	4.8	5.2	5.6	6	6	6	6	6	6.8	7.6	8.4	9.2	10	10.8	11.6	12	12	12	12	12	12	12	12	12	12	12	12	12	13.6	15.2	16.8	18.4	20	21.6	23.2	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
SES	0	0.4	0.8	1.2	1.6	2	2.4	2.8	3.2	3.6	4	4.4	4.8	5.2	5.6	6	6	6	6	6	6.8	7.6	8.4	9.2	10	10.8	11.6	12	12	12	12	12	12	12	12	12	12	12	12	12	13.6	15.2	16.8	18.4	20	21.6	23.2	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
SEW	0	0.4	0.8	1.2	1.6	2	2.4	2.8	3.2	3.6	4	4.4	4.8	5.2	5.6	6	6	6	6	6	6.8	7.6	8.4	9.2	10	10.8	11.6	12	12	12	12	12	12	12	12	12	12	12	12	12	13.6	15.2	16.8	18.4	20	21.6	23.2	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
SWS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thames	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.8	1.2	1.6	2	2.4	2.8	3.2	3.6	4	4.4	4.8	5.2	5.6	6	6	6	6	6	6	7.2	8.4	9.6	10.8	12	13.2	14.4	15.6	16.8	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18

Scenario: Hybrid government scenario C: low until 2040 and medium from 2050 and high from 2060 (interim between 2040 to 2050 to 2060)

Years

Company	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099
Affinity	0	0.4	0.8	1.2	1.6	2	2.4	2.8	3.2	3.6	4.4	5.2	6	6.8	7.6	8.4	9.2	10	10.8	11.6	13.2	14.8	16.4	18	19.6	21.2	22.8	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Portsmouth	0	0.4	0.8	1.2	1.6	2	2.4	2.8	3.2	3.6	4.4	5.2	6	6.8	7.6	8.4	9.2	10	10.8	11.6	13.2	14.8	16.4	18	19.6	21.2	22.8	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
SES	0	0.4	0.8	1.2	1.6	2	2.4	2.8	3.2	3.6	4.4	5.2	6	6.8	7.6	8.4	9.2	10	10.8	11.6	13.2	14.8	16.4	18	19.6	21.2	22.8	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
SEW	0	0.4	0.8	1.2	1.6	2	2.4	2.8	3.2	3.6	4.4	5.2	6	6.8	7.6	8.4	9.2	10	10.8	11.6	13.2	14.8	16.4	18	19.6	21.2	22.8	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
SWS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thames	0	0	0	0	0	0	0	0	0	0	0.4	0.8	1.2	1.6	2	2.4	2.8	3.2	3.6	4	5.2	6.4	7.6	8.8	10	11.2	12.4	13.6	14.8	16	17.2	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18

Scenario: Hybrid government scenario D: 110 pcc across the region by 2050 through Government interventions by transitioning from low to medium and then high to allow the tagrget to be met (Low from 2025; medium by 2040; high by 2075)

Years

Company	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099
Affinity	0	0.4	0.8	1.2	1.6	2.4	3.2	4	4.8	5.6	6.4	7.2	8	8.8	9.6	12	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	13.6	15.2	16.8	18.4	20	21.6	23.2	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Portsmouth	0	0.4	0.8	1.2	1.6	2.4	3.2	4	4.8	5.6	6.4	7.2	8	8.8	9.6	12	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	13.6	15.2	16.8	18.4	20	21.6	23.2	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
SES	0	0.4	0.8	1.2	1.6	2.4	3.2	4	4.8	5.6	6.4	7.2	8	8.8	9.6	12	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	13.6	15.2	16.8	18.4	20	21.6	23.2	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
SEW	0	0.4	0.8	1.2	1.6	2.4	3.2	4	4.8	5.6	6.4	7.2	8	8.8	9.6	12	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	13.6	15.2	16.8	18.4	20	21.6	23.2	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
SWS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thames	0	0	0	0	0	0.4	0.8	1.2	1.6	2	2.4	2.8	3.2	3.6	4	6	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	7.2	8.4	9.6	10.8	12	13.2	14.4	15.6	16.8	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18

Scenario: Hybrid government scenario E: 110 pcc across the region by 2040 through Government interventions by transitioning from low to medium and then high to allow the tagrget to be met (Low from 2025; medium by 2035; high by 2050)

Years

Company	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099
Affinity	0	0.8	1.6	2.4	3.2	4	4.8	5.6	6.4	7.2	8.8	10.4	12	13.6	15.2	16.8	18.4	20	21.6	23.2	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Portsmouth	0	0.8	1.6	2.4	3.2	4	4.8	5.6	6.4	7.2	8.8	10.4	12	13.6	15.2	16.8	18.4	20	21.6	23.2	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
SES	0	0.8	1.6	2.4	3.2	4	4.8	5.6	6.4	7.2	8.8	10.4	12	13.6	15.2	16.8	18.4	20	21.6	23.2	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
SEW	0	0.8	1.6	2.4	3.2	4	4.8	5.6	6.4	7.2	8.8	10.4	12	13.6	15.2	16.8	18.4	20	21.6	23.2	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
SWS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thames	0	0.4	0.8	1.2	1.6	2	2.4	2.8	3.2	3.6	4.8	6	7.2	8.4	9.6	10.8	12	13.2	14.4	15.6	16.8	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18

Scenario: Hybrid government scenario F: Low government savings by 2030 and medium by 2040.

Years

Company	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099
Affinity	0	1.2	2.4	3.6	4.8	7.2	9.6	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
Portsmouth	0	1.2	2.4	3.6	4.8	7.2	9.6	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
SES	0	1.2	2.4	3.6	4.8	7.2	9.6	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
SEW	0	1.2	2.4	3.6	4.8	7.2	9.6	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
SWS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thames	0	0	0	0	0	1.2	2.4	3.6	4.8	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6

Scenario: Hybrid government scenario G: Low government savings by 2030 and high by 2040.

Years

Company	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099
Affinity	0	1.2	2.4	3.6	4.8	9.6	14.4	19.2	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Portsmouth	0	1.2	2.4	3.6	4.8	9.6	14.4	19.2	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
SES	0	1.2	2.4	3.6	4.8	9.6	14.4	19.2	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
SEW	0	1.2	2.4	3.6	4.8	9.6	14.4	19.2	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
SWS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thames	0	0	0	0	0	3.6	7.2	10.8	14.4	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18