

## Sustainability Factsheet 2011 - 12



### Greenhouse gas emissions

The reporting year for all environmental footprint data conforms to the public sector financial year of 1 April - 31 March. Unless otherwise stated all data applies to the Cardiff Bay estate (Ty Hywel, Senedd and Pierhead only).

(Tonnes CO <sub>2</sub> e unless otherwise stated)	2011/12	2010/11	2009/10	2008/09
Total Scope 1 emissions	295	357	353	432
Total Scope 2 emissions	1,766	1,908	2,061	2,181
Total Scope 3 emissions	551	368	279	227
Total Outside Scopes emissions <sup>1</sup>	313	170	58	129
<b>Total Gross Emissions</b>	<b>2,925</b>	<b>2,803</b>	<b>2,751</b>	<b>2,969</b>
<b>Total Net Emissions<sup>2</sup></b>	<b>2,612</b>	<b>2,633</b>	<b>2,693</b>	<b>2,840</b>
Percentage change - net emissions	-1%	-2%	-5%	0

<sup>1</sup> Figure accounts for biomass emissions at point of combustion only which are outside scopes 1-3. Actual direct emissions for biomass are '0' as the CO<sub>2</sub> produced in the burning of biomass are re-absorbed during the growth phase of the cycle.

<sup>2</sup> Net emissions account for direct emissions only and do not include biomass which falls outside Scopes 1-3 as actual direct emissions are zero.

### Financial Indicators

(£ unless otherwise stated)	2011/12	2010/11	2009/10	2008/09
<b>Electricity Costs</b>				
<i>Electricity costs per building</i>				
Ty Hywel	£ 261,353	£ 237,401	£ 299,465	£ 308,535
Senedd	£ 83,311	£ 71,122	£ 77,510	£ 81,698
Pierhead	£ 13,191	£ 14,928	£ 15,934	£ 15,879
Colwyn Bay <sup>3</sup>	£ 6,356	£ 5,589	£ 6,897	£ 5,409
Offsite Server Farm	£ 11,179	£ 5,709	n/a	n/a
<b>Total grid electricity costs</b>	<b>£ 375,390</b>	<b>£ 334,749</b>	<b>£ 399,805</b>	<b>£ 411,521</b>
<b>Gas Costs</b>				
<i>Gas costs per building</i>				
Ty Hywel	£ 40,176	£ 35,972	£ 45,068	£ 69,287
Senedd	£ 3,313	£ 2,259	£ 8,943	£ 12,059
Pierhead	£ 3,175	£ 2,593	£ 2,580	£ 3,844
Colwyn Bay <sup>3</sup>	£ 729	£ 848	£ 547	£ 737
<b>Total gas costs</b>	<b>£ 47,393</b>	<b>£ 41,672</b>	<b>£ 57,138</b>	<b>£ 85,927</b>
Total biomass costs - Senedd	£ 29,053	£ 27,799	£ 10,930	£ 13,738
<b>Total energy costs all buildings</b>	<b>£ 451,836</b>	<b>£ 404,220</b>	<b>£ 467,874</b>	<b>£ 511,186</b>
Transport - owned or leased vehicles	£ 7,853.36	£ 8,326.48	£ 5,871.25	n/a
Transport - official business travel	£ 307,271	£ 179,700	£ 242,074	n/a
<b>Total transport costs</b>	<b>£ 890,799</b>	<b>£ 703,389</b>	<b>£ 841,025</b>	<b>£ 696,778</b>
Total waste and recycling costs	£ 32,847	£ 15,512	£ 4,716	n/a
Total water and waste water costs	£ 22,561	£ 21,922	£ 23,320	n/a
<b>Total waste and water costs</b>	<b>£ 55,408</b>	<b>£ 37,434</b>	<b>£ 28,036</b>	<b>-</b>
<b>Total utility costs - all buildings</b>	<b>£ 1,398,043</b>	<b>£ 1,145,043</b>	<b>£ 1,336,935</b>	<b>£ 1,207,964</b>

## Detailed emission profile (tonnes CO<sub>2</sub>e)

(Tonnes CO <sub>2</sub> e unless otherwise stated)	2011/12	2010/11	2009/10	2008/09
<b>Scope 1 emissions</b>				
Natural gas <sup>1</sup>	224	287	346	429
Fleet vehicles <sup>2</sup>	12.1	10.9	7.1	3.4
Diesel generator	0.0	0.0	0.0	0.0
Refrigerant use <sup>3</sup>	58.7	58.7	n/a	n/a
<b>Total Scope 1 emissions</b>	<b>294.8</b>	<b>356.6</b>	<b>353.1</b>	<b>432.4</b>
<b>Scope 2 emissions</b>				
Electricity <sup>4</sup>	1,688	1,853	2,061	2,181
Offsite Server Farm electricity	77.5	54.8	n/a	n/a
<b>Total Scope 2 emissions</b>	<b>1,766</b>	<b>1,908</b>	<b>2,061</b>	<b>2,181</b>
<b>Scope 3 emissions</b>				
<i>Business Travel</i>				
Private car use	166.5	118.7	148.9	148.8
Hire vehicles	4.2	4.5	12.3	20.1
Pool car	1.2	2.5	0.3	0
Taxis	1.52	1.38	1.62	1.78
Bus/Coach	0.8	0.18	0.13	0.09
Rail	17.8	9.3	11.8	17.5
Air	19.9	6.2	5.9	38.8
Ferry	0	0	0	0.04
<b>Travel emissions total</b>	<b>212</b>	<b>143</b>	<b>181</b>	<b>227</b>
<i>Waste and Recycling</i> <sup>5</sup>				
Municipal Waste to landfill	94	122.0	45.6	NA
Recycled Waste	174	45.0	12.5	NA
Hazardous Waste	0.02	0.4	0.4	NA
Clinical waste <sup>11</sup>	n/a	n/a	n/a	n/a
Confidential waste	3	n/a	n/a	n/a
Food waste	50.4	34.5	30.2	NA
Mixed commercial waste	11	15.8	0.0	NA
<b>Waste emissions total</b>	<b>332</b>	<b>218</b>	<b>89</b>	<b>0</b>
<i>Water</i> <sup>6</sup>				
Water supply	2.5	2.2	2.4	NA
Water treatment	6.3	6.1	6.5	NA
<b>Water emissions total</b>	<b>9</b>	<b>8</b>	<b>9</b>	<b>0</b>
<b>Total Scope 3 Emissions</b>	<b>553.1</b>	<b>368.9</b>	<b>278.6</b>	<b>227.1</b>
<b>Emission outside Scope 1-3</b>				
Renewable energy consumption - biomass <sup>7</sup>	313.5	170.1	57.3	128.7
<b>Total Outside Scopes Emissions</b>	<b>313</b>	<b>170</b>	<b>58</b>	<b>129</b>
<b>Total Gross Emissions</b>	<b>2,926</b>	<b>2,803</b>	<b>2,751</b>	<b>2,970</b>
Reduction from purchase of renewable energy <sup>8</sup>	0	0	0	0
Purchased offsets for air travel - GCOF <sup>9</sup>	0	0	0	0
<b>Total Net Emissions</b> <sup>10</sup>	<b>2,613</b>	<b>2,633</b>	<b>2,693</b>	<b>2,841</b>

### Foot notes

<sup>1</sup> Gas consumption figure accounts for direct CO<sub>2</sub>e emissions only.

<sup>2</sup> Contains direct emissions for the Outreach Bus, Official Car and Cleaning Bus. Emissions for the outreach and cleaning buses are calculated based on litres of diesel used rather than mileage. The Outreach bus runs on bio-diesel (retail blend). Figure for 2008/09 is inclusive of Official Car only.

<sup>3</sup> Accounts for emissions associated with use of refrigerants in air conditioning, chillers and heat pumps taken from the data collected on the F-gas registers. No leaks occurred throughout the year.

<sup>4</sup> Accounts for direct CO<sub>2</sub>e emissions only. Figure is calculated at grid average conversion factor.

<sup>5</sup> Due to insufficient data in 2009/10, the figures only represent five months of data and are therefore not directly comparable. Insufficient data was available for waste and recycling in 2008/09.

<sup>6</sup> Contains treatment of standard water supply from all buildings and grey water from the Senedd. Insufficient data was available for water supply and treatment in 2008/09.

<sup>7</sup> Figure accounts for emissions at point of combustion only which are outside scopes 1-3. Actual direct emissions of biomass are '0' as the CO<sub>2</sub> produced in the burning of biomass are re-absorbed during the growth phase of the cycle. Biomass figure from 2010/11 onwards are based on CO<sub>2</sub>e emissions for wood chips.

Biomass figure for 2008/09 and 2009/10 is based on CO<sub>2</sub>e emissions for wood pellets (before the source fuel was switched to wood chips).

<sup>8</sup> The Pierhead's Green Electricity tariff cannot be verified by the supplier in line with OFGEM Green Supply Guidelines so is not afforded an emissions reduction.

<sup>9</sup> GCOF refers to the Government Carbon Offsetting Fund, a gold standard scheme provided for public sector organisations to offset air travel.

<sup>10</sup> Net emissions account for direct emissions only and do not include biomass which falls outside Scopes 1-3 as actual direct emissions are zero.

<sup>11</sup> There is currently no available emissions conversion factor for clinical waste on the Defra register, therefore emissions are not accounted for from clinical waste.

## Energy consumption

(kWh unless otherwise stated)	2011/12	2010/11	2009/10	2008/09
<b>Energy Consumption</b>				
<i>Electricity consumption per building</i>				
Ty Hywel	2,269,680	2,518,831	2,899,827	3,071,940
Senedd	787,436	825,997	858,844	917,896
Pierhead	117,560	143,563	126,269	116,476
Colwyn Bay <sup>3</sup>	42,846	42,967	42,839	50,604
<b>Total electricity consumption</b>	<b>3,217,522</b>	<b>3,531,358</b>	<b>3,927,779</b>	<b>4,156,916</b>
<i>Gas consumption per building</i>				
Ty Hywel	1,007,982	1,356,711	1,436,384	1,903,850
Senedd	104,962	99,073	344,696	300,419
Pierhead	90,922	89,609	89,081	116,672
Colwyn Bay <sup>3</sup>	13,360	18,082	12,703	16,681
<b>Total gas consumption</b>	<b>1,217,226</b>	<b>1,563,475</b>	<b>1,882,864</b>	<b>2,337,622</b>
Renewable energy sources purchased - biomass	885,500	480,480	164,220	368,640
Offsite data centre electricity consumption	147,666	104,383	NA	NA
<b>Total energy use all buildings (including data centre)</b>	<b>5,467,914</b>	<b>5,679,696</b>	<b>5,974,863</b>	<b>6,863,178</b>

<sup>3</sup>Colwyn Bay electricity and gas consumption is split equally 3 ways among all tenants of all the building due to a lack of sub-metered data.

## Waste and recycling, paper and water

	2011/12	2010/11	2009/10	2008/09
<b>Waste and Recycling</b>				
Mixed recycling (tonnes) <sup>1</sup>	75.6	72.6	20.7	NA
Landfill (tonnes)	40	42.6	15.9	NA
Mixed commercial waste (tonnes)	16.7	6.1	-	NA
Food composting (tonnes)	14.2	8.6	7.5	NA
Hazardous Waste - fluorescent tubes (tonnes)	0.05	0.1	0.1	NA
Clinical waste (tonnes)	0.9	NA	NA	NA
Confidential waste (tonnes)	3.81	NA	NA	NA
Cooking Oil (tonnes) <sup>2</sup>	2.7	3	3	NA
Ink Toners (tonnes) <sup>3</sup>	0.70	0.70	0.69	0.28
Cooking Oil (litres)	3000	3,000	3,000	3,000
Ink Toners (number)	953	1,116	927	376
<b>Total waste</b>	<b>154.7</b>	<b>133.3</b>	<b>47.5</b>	<b>0.3</b>
<b>Paper purchased</b>				
<i>Internal</i>				
No. of sheets A4 (million)	1.9	3.8	3.0	3.2
Weight (tonnes)	13.4	22.2	18.7	17.7
Percentage including recycled or FSC accredited content (%)	95	95	95	95
<b>Paper consumption</b>				
<i>External<sup>4</sup></i>				
No. of print jobs	12	6	25	NA
No. of sheets (thousand)	267	441	474	NA
Weight (tonnes)	1.44	2.4	3.6	NA
Percentage including recycled or FSC accredited content (%)	100	100	100	NA

<sup>1</sup> Consists of paper, card, plastics, glass and cans.

<sup>2</sup> A total of 3000 litres of cooking oil was consumed across the estate (60 litres a week for a 50 week period). The weight in tonnes is calculated from converting the relative density of cooking oil which is 900kg/m<sup>3</sup> by the total volume consumed (1m<sup>3</sup> = 1000l = 900kg, 900x3 = 2,700kg = 2.7 tonnes).

<sup>3</sup> Toners are recorded on the number recycled and the total weight is calculated based on the weight of one empty toner (this stands at 0.737kg) multiplied by the total. This figure is then converted into tonnes.

<sup>4</sup> Refers to print jobs commissioned to external print suppliers only.

  

(m3 unless otherwise stated)	2011/12	2010/11	2009/10	2008/09
<b>Water consumption</b>				
Ty Hywel	5,938	5,529	6,425	NA
Senedd	24	506	298	NA
Pierhead	1,707	1,411	1,195	NA
Senedd - grey water	747	737	788	NA
<b>Total water consumption</b>	<b>8,416</b>	<b>8,183</b>	<b>8,706</b>	<b>-</b>
<b>Total water treated</b>	<b>8,416</b>	<b>8,183</b>	<b>8,706</b>	<b>-</b>

## Business travel

(miles unless otherwise stated)	2011/12	2010/11	2009/10	2008/09
<b>Land travel</b>				
Outreach bus (litres of retail blend bio-diesel)	1448	3855	1974	n/a
Cleaning Bus (litres of diesel)	1502	1586	665	n/a
Total fuel consumption - fleet vehicles (litres) <sup>1</sup>	<b>2950</b>	<b>5441</b>	<b>2639</b>	n/a
Official car	18,608	5,868	8,513	10,000
Private car	505,828	360,509	452,498	452,177
Hire cars	15,740	16,698	45,772	75,066
Pool car	5,268	10,787	1,300	-
Taxi	6,288	5,663	6,624	7,275
Outreach Bus	7,473	17,310	6,325	NA
Cleaning Bus	10,353	10,276	4,175	NA
Rail	195,389	102,726	129,284	192,879
Bus/Coach	3,350	733	532	394
<b>Land distance travelled</b>	<b>768,297</b>	<b>530,570</b>	<b>655,023</b>	<b>737,791</b>
Average CO <sub>2</sub> per hire car	131	132	146	159
Average engine size - hire car	1.4	1.4	1.6	1.7
<b>Air travel</b>	<b>116,911</b>	<b>36,336</b>	<b>34,690</b>	<b>228,588</b>
<b>Sea travel</b>				
Ferry	-	-	-	1,160
<b>Total distance travelled</b>	<b>885,208</b>	<b>566,906</b>	<b>689,713</b>	<b>967,539</b>

<sup>1</sup> Refers to diesel consumption of the Cleaning bus and bio-diesel consumption of the Outreach Bus.

## Intensity Ratios

	2011/12	2010/11	2009/10	2008/09
<b>Performance measure</b>				
<i>Full time equivalent (FTE) count</i> <sup>1</sup>	736	735	739	692
<i>Commission Staff count</i>	336	335	339	292
<i>Total useful floor area m2 (Ty Hywel, Senedd and Pierhead)</i>	22,208	22,208	22,208	22,208
<i>Total useful floor area m2 (Colwyn Bay)</i>	254	n/a	n/a	n/a
Tonnes CO <sub>2</sub> e/occupant (FTE)	3.55	3.49	3.72	4.20
Tonnes CO <sub>2</sub> e/m <sup>2</sup>	0.12	0.12	0.12	0.13
Energy CO <sub>2</sub> e emissions/m2 (tonnes)	0.09	0.10	0.11	0.12
Energy consumption Kwh/occupant (FTE) - Ty Hywel only	4,453	5,273	5,868	7,190
Energy consumption per m2 (kWh)	246	248	267	306
<b>Travel (miles)<sup>2</sup></b>				
Private car travel per FTE	980.2	912.7	1,134.1	1,284.6
Hire car travel per FTE <sup>3</sup>	46.8	42.3	114.7	213.3
Pool car travel per FTE <sup>4</sup>	15.7	27.3	3.3	-
Taxi travel per FTE	12.2	14.3	16.6	20.7
Rail travel per FTE	378.7	260	324	548
Bus/Coach travel per FTE	6.5	1.9	1.3	1.1
Air travel per FTE	226.6	92	87	649
<b>Paper</b>				
Paper (tonnes)/employee (FTE)	0.02	0.03	0.025	0.025
No.of sheets/FTE	2,581	5,197	4,114	4,610
<b>Waste</b>				
Waste generated/occupant FTE - tonnes	4.76	0.18	0.06	NA
<b>Water</b>				
Water consumed m3/occupant (FTE) - Ty Hywel only	8.07	7.5	8.7	NA

<sup>1</sup> Includes AMs, AMSS, Commission staff, onsite WAG staff, broadcasters, onsite contractors and other staff.

<sup>2</sup> Applies to Commission staff and AMs only for all data preceeding 2011/12. AMSS travel is included for the first time in 2011/12.

<sup>3</sup> Applies to Commission staff only from 2010/11 onwards.

<sup>4</sup> Applies to Commission staff only.