

NATIONAL ASSEMBLY FOR WALES



Ambition, commitment and innovation have all played a key role in the National Assembly for Wales' challenging carbon reduction strategy. In the last 5 years, we have reduced our total net carbon emissions by 29%, our absolute energy consumption by 30%, our transport emissions by 8% and achieved average annual energy cost savings of £25,000. Underpinning these achievements are key challenging targets that support the Assembly's corporate goal of 'using resources wisely'; notably to cut absolute energy emissions by 40% and business travel emissions by 15% by 2015 compared to 2008/09 levels and to achieve zero waste to landfill by 2018.

With a modest annual investment budget, the Assembly has innovatively and strategically targeted efficiency improvements across its diverse estate – a Grade 1 listed public building, the BREAAAM excellent Senedd building and a fully occupied 1990's office block. Through a series of innovative interventions, we have carefully manipulated the operation and efficiency of our buildings whilst optimising comfort and the working environment for our occupants and visitors alike.

ENERGY - LEADING WITH LESS

Energy emissions account for 76% of the Assembly's total carbon footprint. Energy represents our most significant utility cost and by this very virtue reducing energy intensity, consumption and emissions are our main priority. We've pulled no punches with our efforts to improve the efficiency of our buildings, engage our occupants and drive sustainability considerations through our operations and activities. Carbon cutting initiatives include the installation of a glycol,

free cooling system in our main server room that draws cold air from the undercroft of the building thereby reducing the air conditioning load, an almost comprehensive PIR system installed on 3,000 lights in our office block – more recently re-using PIRs from a refurbishment in another part of the building saving £50k in capital costs; the replacement of perimeter lights with LEDs to enhance lighting and reduce glare, and the replacement of inefficient radiator valves during accommodation refurbishments with new, controlled radiator valves.

Around 750 Energy Star rated PCs across the Assembly automatically hibernate after 15 minutes of inactivity, reducing operating energy consumption by 22% and saving £40 per PC per year in energy costs from a comprehensive 'switch off' culture among all occupants. Building management system optimisation, modifications to chiller operation to run on demand rather than time schedules, variable speed drives on our pumps, daylight linked lighting in our canteen and the replacement of existing lights with LEDs in our exterior car park have also contributed to the success.

Last year, we identified an opportunity to reduce the incoming electricity demand supply to the estate by over 50% as a result of reduced consumption saving £10,000 per annum on energy supply costs. We refurbished 12 of our toilet blocks with a clear focus on the integration of sustainable fittings throughout the project lifecycle – these included waterless urinals, low flow sensor flushes, LED lights, sensor taps with regulated flow and low energy hand dryers.

To help us fully understand and monitor our energy usage, we have undertaken a comprehensive baseline analysis of our office block, involving extensive metering checks, relabeling, the production of an up

to date building schematic and the identification of additional energy loads for interrogation. To support this, we have installed multiple sub-meters across the building, enabling us to now pinpoint opportunities for intervention and exploit a vastly improved understanding of energy use by our plant and occupiers. This metering is networked on a dedicated energy management system and includes half hourly utility measurement, monitoring and management.

A heating and cooling strategy that restricts heating in transition areas and unoccupied spaces, optimised controls, targeted set points and the installation of four buffer vessels to the Senedd's biomass boiler to improve heating efficiency have led to reductions in our absolute gas consumption of 553,000kwh since 2008/09 amounting to 41% in CO₂e savings.

Since 2008/09, the Assembly has reduced total energy emissions by 35% (708 tonnes). The Carbon Trust have identified this as public sector leading performance in Wales. However, we are not stopping there. As we progress through the final year of the strategy, and hopefully the achievement of a 40% reduction in energy emissions by March 2015 – we have already put plans in place to push our energy reduction limits to the next level.

We recently collaborated with Arups and the Carbon Trust to develop a new energy reduction route map to propose a further 30% reduction in energy emissions by 2021 compared to 2012/13 levels. The route map was officially approved by the Assembly Commission in June 2014, continued confirmation that carbon management remains a high priority. If achieved, this would amount to a total of 70% in energy emissions reductions alone since 2008/09.

SUSTAINABLE PURCHASING

The Assembly aims to embed sustainable development across all its activities, including its goods and services and carries out Sustainability Risk Assessments on new contracts to ensure economic, social and environmental impacts are minimised from the specification upwards whilst identifying opportunities for improvement and innovation at the same time. We have worked closely with our Cleaning contractor to improve and build additional sustainability requirements into the contract such as the use of low energy equipment, placing greater emphasis on supplier engagement, performance reporting and regular monthly reviews of key KPIs. Our catering contractor has replaced all disposable coffee cups in the canteen with re-usable china mugs with lids saving 89,000 disposable cups per year. We are in the process of developing an Assembly wide project sustainability assessment tool for application and consideration by all project managers on new projects over £25k to ensure consideration, dialogue and best available techniques are deployed throughout.

CLOSED LOOP COMMUNICATION

The Assembly works closely with occupiers, contractors and on-site department managers to encourage positive change. We developed an interactive occupant engagement guide on heating and cooling to help raise awareness and understanding amongst occupants of the strategies we employ to heat and cool our buildings together with actions they can take to remain comfortable in work, and we are in the final stages of developing monthly dashboards on building energy and waste performance highlighting key, meaningful data.

We actively listen to feedback from our staff and Members and have installed high performance solar film on our south facing and exposed facades to reduce solar gain and improve comfort for those working



nearest the windows to great success. Corporate inductions on sustainability in the workplace are carried out for all new starters, a team of 'green advisors' across the Assembly are consulted on new initiatives to seek their team's views and opinions to influence decision making and talks on Environmental policy are offered and carried out at team meetings across the Assembly on a more informal level.

SMARTER TRAVEL

A suite of travel initiatives for more sustainable business and commuter travel include a low emission pool car (89g CO₂/km) that displaces private car use together with a low carbon hire car contract which specifies 'small cars' by default resulting in a drop in average vehicle emissions from 146g/km in 2009/10 to 102g/km in 2013/14; a fleet bus that runs on bio-fuel, a cycle to work scheme with over 40 participants, season ticket loans, secure cycle parking for 60 bicycles, showers and changing rooms, lockers, cycle maintenance workshops and drying facilities. The introduction of car parking charges resulted in an immediate drop of 20% in car commuters and video/tele-conferencing facilities are also used across the site. Overall, the Assembly's absolute transport emissions have fallen by 8% since 2008/09.

To support more active travel, we are fully refurbishing the onsite bike storage shed as a result of excess demand for cycle parking from the increase in cyclists. We consulted with cyclists on a face to face basis requesting views, ideas and feedback and have developed a new improved racking system (sourced and manufactured in Wales) through the optimisation of the existing space, new drying area and improved drying facilities, improved access, equipment for repair and maintenance use, lockers; replaced the existing lights with LEDs and installed motion sensors. We support Bike Week annually with raffles, Dr Bike 'MOT' sessions and free refreshments and breakfasts for cyclists who cycle to work everyday.

ZERO WASTE TO LANDFILL

The Assembly is on target to achieve zero waste to landfill 3 years ahead of schedule. With a recycle rate that has increased from 68% to 96% since 2010/11 and a reduction of 50% in waste CO₂e emissions over the same period, the Assembly now recycles and reuses more than ever – plastics, card, paper, glass, food (composted), cooking oil (converted to bio diesel), clothing (shredded to be used in paper pulp), carpet tiles, green waste and commercial waste. This year, we switched the large office waste bins to recycling bins and reduced the number of general waste bins as occupants demand for further recycling facilities has increased.

To enhance the biodiversity of the estate, we arranged for the installation of 6 bird boxes (made by young members of the RSPB) into the existing trees in the car park and have also created a small urban garden for occupants to grow plants and flowers.

In summary, we are very much aware that the drive to become a truly sustainable organisation is a journey that presents challenges and opportunities along the way but we continue to remain focussed and committed to our vision.

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