



A Responsible Manager and Developer of Real Estate

We continue to increase the efficiency of our real estate portfolio and minimize its overall impact on the environment through the use of sustainable property management and development strategies.

As a long-term real estate owner with a global portfolio of more than 41 million square feet, we are acutely aware of the environmental and economic benefits that can be realized through environmentally sustainable building design.

Manulife's new office tower developments target Leadership in Energy and Environmental Design (LEED) Gold level as the basis for design, with a focus on reducing operational energy consumption. This is achieved by installing energy-efficient equipment and systems, implementing advanced building controls systems and combining them with high-performance building enclosures. Designs also specify high levels of durability for equipment to improve performance, reducing the need for replacement and the related cost and waste over the whole building life cycle. This approach focuses on reducing the operational life cycle costs of our buildings and the waste they generate, reflecting our long-term approach to investing.

Manulife has achieved either Energy Star or BOMA Best certifications for all its buildings in North America.



John Hancock hosted an event at our Wellesley Office Park in Boston during the U.S. National Drive Electric Week to promote electric vehicles. The event was attended by representatives from organizations that included the Massachusetts Executive Office of Energy and Environmental Affairs, Plug In America, the Sierra Club and the Electric Auto Association.

Green Management

Manulife currently has 21 properties certified to the LEED standard, and we plan to pursue the certification for more buildings as the portfolio continues to grow.

In addition to developing buildings using LEED standards and processes, we use a number of energy-saving measures and technologies in the real estate portfolio, including:

- Computerized scheduling and programming of lighting and HVAC systems
- Harvesting daylight to reduce the need for perimeter lighting
- Using chilled water from cooling towers to cool the air in interior spaces
- Using waste heat from retail cooling systems to pre-heat water in adjoining residential facilities
- Occupancy sensors for lighting systems in spaces that are in constant use, such as stairwells, garages, and meeting and equipment rooms
- Energy-efficient LED lighting in situations where lighting is required at all hours
- Using grey water and installing trickle irrigation for landscaping
- Installing low-flow toilets and automatic faucets

Doing Our Part to Support Electric Vehicle Ownership

Electric vehicles can play a vital role in a green future, and for consumers who might be considering making the leap to an electric vehicle, that decision may depend on whether or not they can charge their vehicle while they're at work. In fact, a network of charging stations is essential for the wide-scale adoption of electric vehicles.

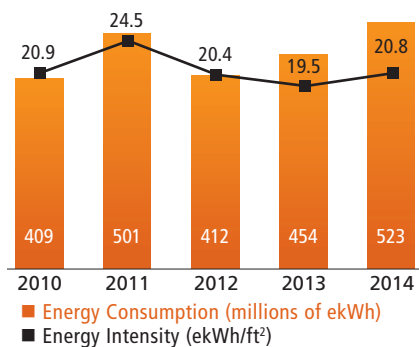
With Manulife's significant real estate holdings, we are uniquely positioned to help make electric vehicle ownership more practical and convenient by installing charging stations at our properties. We currently have 49 charging stations with a total of 80 charge ports in 14 properties across Canada and the United States, and we plan to continue installing charging stations throughout our property portfolio.

Our approach

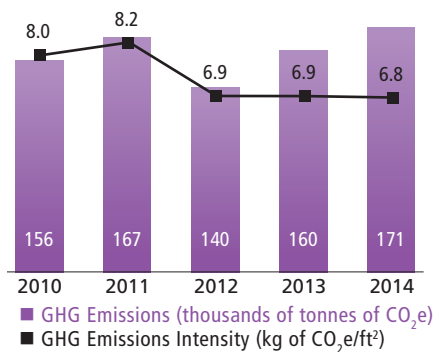
Minimizing Our Operational Footprint

Manulife uses a range of policies, programs and initiatives to increase the efficiency of our business operations and minimize our impact on the environment.

Energy



Greenhouse Gas (GHG) Emissions



We manage the environmental performance of our real estate operations through the use of a proprietary, web-based utility consumption reporting (UCR) system. The UCR system tracks our energy and water use, as well as building waste collection and diversion rates. As the UCR system relies on utility data, we use it primarily in the commercial office properties that we have under direct management and have operational control over the premises. As we do not have operational control over energy use and financial control over utility bills for the majority of our industrial, retail and residential properties, we currently do not include these properties in our reporting.

In 2014, we have reported on 61 per cent of our total real estate portfolio, representing more than 25 million square feet. This is an increase of over seven per cent, or 1.8 million square feet, from the area on which we reported in 2013, and reflects the disposition of four properties and the addition of eight properties to the portfolio in 2014. The absolute increases in all data reflect the change in property mix and the increase in total reported area in 2014. Manulife uses data related to intensity of emissions or consumption per square foot to monitor and manage environmental performance at the individual property level and at the portfolio level.

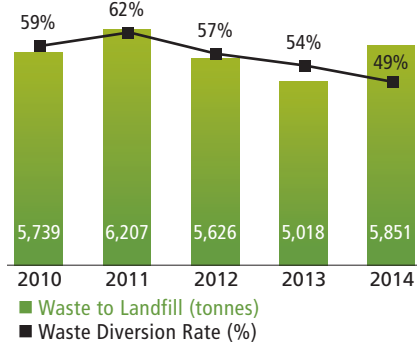
Energy and GHG Emissions

We pursue a minimum energy consumption reduction target of two per cent per year in our corporate and investment real estate operations. We set annual targets for performance improvement for individual properties, and provide incentives to our property directors to achieve them.

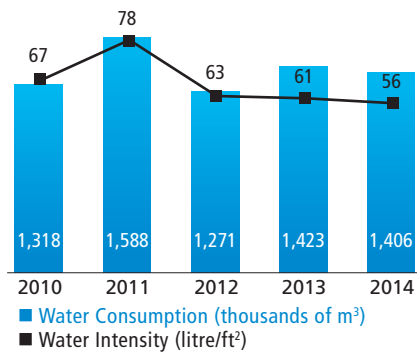
Between 2010 and 2014, the intensity of our energy consumption has remained relatively stable, decreasing slightly from 20.9 ekWh/ft² in 2010 to 20.8 ekWh/ft² in 2014.

Note 1: Energy consumption and energy intensity data has been adjusted for weather and extraordinary use in order to measure the relative performance of our properties. Greenhouse gas emissions and waste reporting is based on gross, unadjusted data.

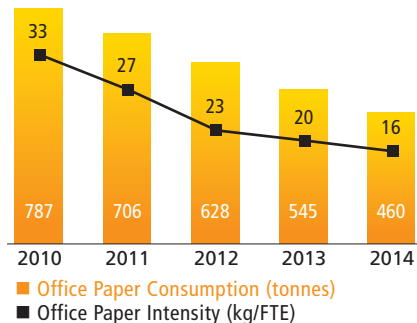
Waste



Water



Office Paper



Our absolute energy consumption increased in comparison to 2013, in large part due to the change in our portfolio. This change resulted in the disposition of four properties with energy consumption better than our historic portfolio average and the addition of eight buildings with energy consumption poorer than our historic portfolio average. (These new additions to the portfolio were identified during acquisition as offering a significant opportunity for energy performance and value improvement under our management.)

Due to energy-efficiency programs we have put in place over the past years at the properties owned prior to 2014, the intensity of our greenhouse gas emissions has declined by 15 per cent since 2010, from 8.0 kilograms of CO₂e/ft² to 6.8 kilograms of CO₂e/ft². This decline is due in part to long-standing programs aimed at reducing our electricity use in regions with more carbon-intensive energy generation methods and also reducing our natural gas consumption.

We continue to purchase renewable energy credits. In 2014, we purchased 51,824 MWh of renewable energy, enough to power eight per cent of our real estate portfolio.

Waste

The total amount of waste generated annually by our operations increased by 14 per cent from 2013 to 2014. Along with the increase in waste generated, our performance in diverting waste from landfill has declined from a rate of 54 per cent of total waste diverted in 2013 to 49 per cent in 2014. These year-over-year changes can largely be attributed to not having our usual management practices in place in the new properties that were added to the portfolio in 2014, and to property-specific tenant improvement activities. In 2015, we plan to conduct waste audits at anomalous properties with the aim of identifying opportunities to improve waste diversion performance and overall waste reduction.

Water

Manulife is achieving reductions in water use, with consumption per square foot down from 67 litres in 2010 to 61 litres in 2014, a decrease of nine per cent. We continue to implement cost-effective measures to reduce water consumption across our portfolio, such as using grey water and trickle irrigation for landscaping and installing low-flow toilets and automatic faucets, reducing operating costs and environmental impacts.

Paper

We continue to search for ways to reduce our total annual paper consumption and increase our use of sustainably sourced paper. We have a number of programs in place that encourage our employees to reduce the amount of office paper they use, and we are also migrating our customers to the use of paperless statements. As a result of our efforts, office paper consumption per employee has decreased by 42 per cent since 2010. The average recycled content in all purchased paper has declined from 53 per cent in 2010 to 39 per cent in 2014.