

Greenhouse Gas Inventory

Direct GHG emissions - Scope 1

GHG emissions from sources owned or controlled by South East Water.

- Consumption of natural gas for the office kitchen
- Consumption of LPG as backup system for sludge digestion
- Transportation of employees and contractors using company fleet vehicles
- Generation of emissions during wastewater treatment, including emissions released during chemical use
- Generation of emissions from livestock located on company owned property

Indirect GHG emissions - Scope 2

GHG emissions from imports of electricity or gas.

- Purchase of electricity for South East Water activities

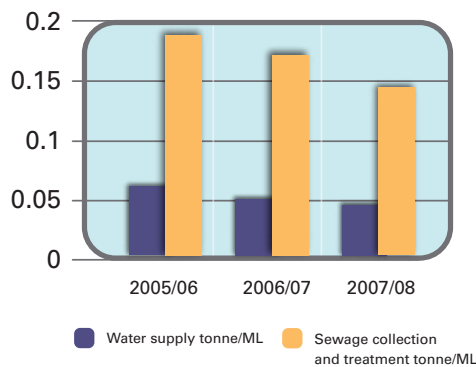
Indirect GHG emissions - Scope 3

Other indirect GHG emissions that are a consequence of the activities of the company, but occur from sources not owned or controlled by the company. This includes full lifecycle emissions associated with scopes 1 and 2.

Measured

- Indirect emissions associated with gas and electricity consumption
- Indirect emissions associated with vehicles

Greenhouse gas intensity of providing water services



Emission/Offset	2007/08	2006/07	2005/06
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Scope 1

Non-Transport Diesel	31	5	
Gas	71	98	43
Livestock	1,279	1,331	1,907
Vehicles - Fleet	977	1009	981
Wastewater	2,966	3,138	2,639
Total Scope 1	5,323	5,582	5,571

Scope 2

Electricity	21,531	22,440	25,617
Total Scope 2	21,531	22,440	25,617

Scope 3

Non-Transport Diesel	2	1	
Gas	7	13	6
Electricity	1,412	1,558	3,313
Vehicles - Fleet	46	77	106
Vehicles - Tankering	7	0	0
Total Scope 3	1,479	1,648	3,425
Total emissions	28,328	29,671	34,613

Offsets

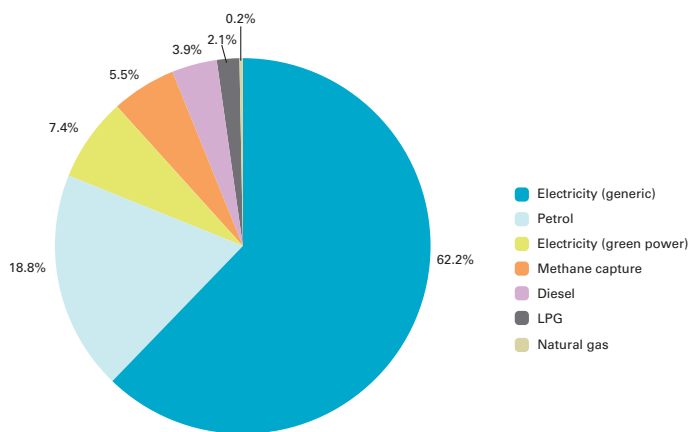
Trees	-248	-556	-1,143
Greenfleet	-1,030		
Total Offsets	-1,278	-556	-1,143
Net (tCO₂-e)	27,050	28,470	32,825

Reductions Associated with SE Water's Showerhead Replacement Scheme in 2007/08

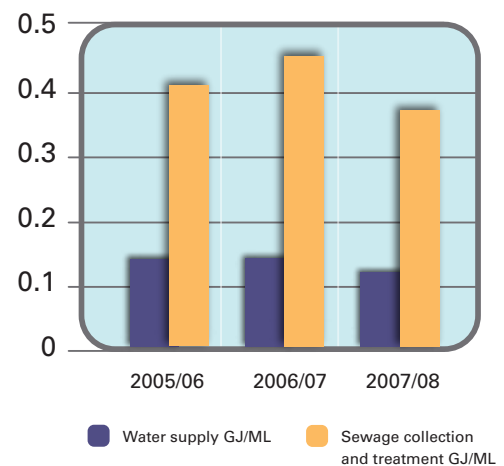
	No. of Showerheads installed	emission factor (tCO ₂ -e per showerhead)	emissions (tCO ₂ -e) 2007/08
Residential	56,077	2.8	-157,015
Business	7,328	2.8	-20,518
Total (tCO₂-e)			-177,534

Energy Inventory

All energy consumption by source



Energy intensity of providing water services



In accordance with the SE Water's culture of continuous improvement and in line with SE Water's Corporate Plan, a renewable stationary energy figure of 16.3% was achieved for 2007/08. Additionally SE Water is committed to achieving ongoing greenhouse gas reductions through:

- Continuing Eco-office initiatives including smart metering of electricity consumption
- Continuing to participate in WSAA reporting activities
- Investigation of further renewable energy opportunities.
- Increase monitoring at STP and high load pump stations
- Generation of additional renewable energy through the introduction of a mini hydro system commissioned in July 2008
- Continuing methane recovery and reuse for sludge heating at the Mornington STP
- Continual growth in the purchase of green power, now at 10.6%
- Continuing to subscribe fleet vehicles to green fleet each year (currently 174 vehicles).

Case Study Our mini-hydro system saves money and resources



South East Water has installed a grid-connected mini-hydro electricity plant in its water supply system at the Hallam Pressure Reduction Station. This station comprises a number of pressure reduction valves, one of which has been replaced with a mini-hydro.

Energy made available through pressure reduction is now converted into renewable energy by the mini-hydro, rather than have it wasted. Around 900 megawatt hours of renewable energy per annum will be generated and sold back into the electricity grid. The cost of the project was \$1 million. Income will be generated through the sale of renewable energy into the grid and the sale of Renewable Energy Certificates.

The payback period is estimated to be around twenty years. Greenhouse gas savings are calculated to be around 1,000 tonnes of greenhouse gases per year. The project was co-funded by Sustainability Victoria as it demonstrates an innovative application of proven renewable energy technology.