

A Green Plan for the Kilbarrack Fire Station

In 2010 ? Neil McCabe, fire-fighter at Kilbarrack Fire Station in Dublin, decided to start action. He wanted his Fire Station to become more sustainable and therefor started with small, inexpensive measures like asking the staff to recycle batteries. He went on by sucessfully implementing the Green Plan© to create a more connected and better working environment. It included many different aspects, like energy and water consumption reduction, biodiversity protection or waste prevention and involved all of the Crew of the Fire Station as well as the local community and the City Council. Within 3 ? years he created the world's first carbon neutral fire station.



Micro Wind Generation Turbines on site
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Basic Information

RE-GREEN conceptual model dimension:	<ul style="list-style-type: none"> ✓ Green Buildings • Green Urban Systems • Green Governance
Connections between the selected dimension and the others:	<p><i>Green Governance:</i> Many partnerships have been set up with different departments of the City Council</p> <p><i>Green Urban Systems:</i> Not only the building but also aspects like transport or the green spaces sourrounding the fire station have been included</p>
Area of interest:	Example of detailed retrofitting with many different aspects to reduce not only energy but also waste, water etc.
Location of implementation	Kilbarrack, Dublin
Good practice implementation status:	<ul style="list-style-type: none"> • Project ✓ Ongoing • Concluded
Good practice dates	Start in 200 ..? End:
Good practice developer:	Neil McCabe
Partners involved:	Dublin City Council, Dublin Fire Brigade, ...

Good Practice criteria

Relevance	Retrofitting of a public building including not only measures to improve the building but others far beyond
Transferability	All measures can be applied to any other fire station

Description

Context	Air tightness test showed that the building is leaks out over 10 tons of CO2 each year through its building fabric, below the lowest legal standard
Objectives	<ul style="list-style-type: none"> • Significantly reduce energy and water consumption • Prevent and reduce the volume of domestic waste created • Save money by reducing the energy costs by up to 80% • reinvest the savings in the fire station • Create a Carbon Neutral Fire Station that can trade Carbon Credits • Deliver services differently, engaging local community within DFB
Activities	<p>Several Activities have been undertaken in different fields¹:</p> <p>Water (e.g. retrofit tabs, showers etc; installation of rainwater harvesting system and waste water treatment works on site)</p> <p>Waste (e.g. air tightness test in 2008, insulation of the stations pipe work, seperate waste, participation in a behavioural change program, set up eight PPPs to create the new recycle bay in the Fire Station)</p> <p>Biodiversity (e.g. internal partnership with D.C.C. Parks Department, biodiversity feasibility study, biodiversity action plan, clear all grounds of debris and segetae waste for recycling, creation of gardens, plantation of native stress and species)</p> <p>Transport (e.g. run fleet partly on biodiesel, build bike shed for Station Crew, collecte used cooking oil from the Station and the Crews domestic kitchens to mix up D.F.B. (which can be used in any unmodified diesel engine)</p> <p>Society (e.g. teaching school children about biodiversity, cooperation with Oxfam to give used uniforms to worls aid relief projects, involving retired fire fighters, staying as much as possible in the local area for food supply)</p> <p>Procurement (e.g. purchase food groceries locally, tender process with loca builders, architects, suppliers and engineers, construct allotment garden for the station)</p>

¹ for a complete list, please see the Neil McCabe (2011): Green Plan Kilbarrack Fire Station, URL: http://www.codema.ie/images/uploads/docs/Kilbarrack_Green_Plan.pdf

	Energy (e.g. Installation of Micro Wind Generation Turbines, installation of a new heat management system with advanced controls in tandem with two new gas condensing boilers)
Beneficiaries	The Firefighters working in the Station, schools, the local community, the Dublin City Council, local suppliers, ...
Financial sources and amount	
Public Participation Mechanism	<ul style="list-style-type: none"> • Biodiversity action days with the nine local National Schools, • School kids learn about biodiversity in the Fire Station, the Firefighter build bat and bird boxes to the children for their school along with vegetable seeds and compost from the station • Retired fire fighters helped creating the commemorative garden and some other aspects of the project • Respite days for the patients from the local hospital have been held in the commemorative garden
Outcomes	The firestation is CO2 neutral today, ...

Quantitative indicators

Water

Reduction of water consumption of the station of	1500 000 l per year
Reduction of cost of water	90 %
Reduction of return of fats and oils to the main drains	90%
All water from the roofs space, wash hand basins, showers and kitchen is treated on site and returned to the holding tank for use on the Stations Emergency Appliance	

Waste

Prevented heat losses	- 10t of CO ₂
Reduction of Energy Consumption of the station	80% (= - 200l of oil = 1,500 kWhr)

Biodiversity

Water harvested on site used for the garden	100%
Compostation of organic waste created in the station	100%

Transport

Cooking oil collected in 2009	> 300l
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Procurement

Vegetable allotment yielding crops	60m ²
Drop in Fire Stations U value	80%

Energy

Power generated by the Micro Wind Generation Turbines	60 kW
Reduction of Electricity Consumption of the Station	80%

Main factors of success

- Willingness and desire for action of Firefighter Neil McCabe
- The collaboration of his colleagues and the DCC, their interest in the benefit and success of the project
- **Funding from ..? Contracting ? Selling EU allowances?, PPP**
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Impacts on the region

Biodiversity Education for children in schools, The leading example of Kilbarrack can lead further action,

Good practice contact details

Name of the company, institution, organization	Dublin Fire Brigade
Address	Kilbarrack Fire Station Kilbarrack Rd Dublin 5, Ireland
Telephone	
E-mail	neil.mccabe@dublincity.ie
Website	
Who did you contact to fill in the form	Neil McCabe



Vegetable allotments and garden
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