Carbon Offsetting

What is Offsetting?

A carbon offset negates or 'neutralises' a tonne of CO_2e (carbon dioxide equivalent) emitted in one place by avoiding the release of a tonne of CO_2e elsewhere, or, absorbing/sequestering a tonne of CO_2e that would have otherwise remained in the atmosphere.

Carbon offsets are created through a variety of methodologies, such as renewable energy, energy efficiency, destruction of various industrial gases, and carbon sequestration underground or in soils and forests. A project does not necessarily have to reduce CO_2 (carbon dioxide), but can also offset a variety of other GHGs such as methane and hydrofluorocarbons.

Carbon Neutral

Carbon neutrality, or having a net zero carbon footprint, refers to achieving net zero year on year greenhouse gas (GHG) emissions. This can be achieved by balancing measured emissions with an equivalent amount of carbon offsets.

Carbon Credit Verification and Standards

Without actually visiting the offset projects ourselves, how can individuals be sure that the projects are credible?

The voluntary offset market has developed various standards, akin to certifications. These include the Voluntary Gold Standard (GS) and the Voluntary Carbon Standard (VCS). GS certified offsets are audited according to the rules laid out in the Kyoto protocol and must demonstrate social benefits for local communities. The VCS, meanwhile, aims to be just as rigorous but allow for a greater range of innovative small-scale projects.

The Gold Standard
Premium quality carbon credits

VCS VERIFIED CARBON STANDARD
A Global Benchmark for Carbon

As such, VCS is the most widely used greenhouse gas program in the global voluntary carbon market.

Social Benefits

A core principle of projects is their contribution towards international sustainable development in their locality, such as the objectives enshrined in the Millennium Development Goals (MDGs). They all provide either social, economic, and environmental benefits (or more often than not, a combination) to the local communities such as:

- Outreach programs improving healthcare, education and infrastructural facilities in the community.
- The generation of employment opportunities, investment into local supply chain, and safeguarding energy supply to area.
- The reduction of GHG emissions, air pollution from fossil fuel-fired power plants, and recovery of degraded areas.

Business Benefits

Along with the obvious environmental benefits, there are other intrinsic business advantages available from carbon offsetting. It is a powerful tool for building brand and reputation through alignment with increasingly eco-conscious stakeholders and customers. The reputation drivers that are created from carbon offsetting are:

- Brand positioning
- Employee Engagement
- Investor Relations
- Sustainability Platform
- Increased Brand and Company Reputation

"Research from the Carbon Trust suggests that over half of people in the UK would be more loyal to a brand if they could see that it was taking steps to reduce its carbon footprint." – Ernst and Young: How should business approach carbon neutrality?, 2012

"Companies with Climate Change strategies on average see double the returns than those without" – PriceWaterhouseCoopers: Global 500 Report, 2011

Example Project: Jilin Changling Wind Farm Phase II Project

Project Profile

The project, located in Jilin Province, People's Republic of China (PRC) utilises wind resources for electricity generation via a wind farm to deliver the electricity to the Jilin Provincial Power Grid. The project is a zero-emission electricity generating activity. Thirty-three 1.5 kW wind turbines were installed, supplying a total 49.5 MW or 99,853 MWh net power replacing fossil fuel-fired dominated power plants. Over the crediting period of 7 years, project will generate 799,484 tCO_2e.

Project Benefits

Socio-Economic benefits include 20 job opportunities for local people with construction of the wind farm contributing to economic growth in the region. Furthermore, the project contributes to local government with more tax revenues and poverty alleviation. As grid-connected fossil fuel-fired power dominates in the Northeast China Power Grid, project activity will avoid CO_2 emissions, and reduce fossil fuel consumption avoiding further pollutants emission, such as sulphur dioxide. Additionally, successful implementation of the project contributes to wider deployment of wind power technology in the local and national level.

Carbon Credit Registry & Retirement of Carbon Credits

A registry is a database of external emission reductions recording their existence and transactions between accounts. Each credit is assigned a unique identifier.

Credits are further retired (or cancelled) from the registry upon being sold to offset an equivalent amount of GHG emissions preventing their future use.