

## YOUR CARBON FOOTPRINT TOWARDS A SUSTAINABLE STRATEGY: *THINGS TO DO*

### SHORT-TERM MITIGATION MEASURES: what everyone can do straight away.

#### *Individual behaviours and personal responsibility.*

- Use of **transport** that minimises carbon emissions: public transport, staff travel plan, cycling amenities, car sharing, etc.
- **Turn off electric/electronic equipment** when not in use: where possible avoid leaving computers, printers, monitors and other equipment on standby and use energy saving settings for periods of inactivity.
- **Turn off lights** in a vacated room: last one out checks, motion activated lights, key activated lights.

#### *Corporate behaviour and company responsibility.*

- Commission or carry out own **environmental audit** and budget to implement recommendations; Set out the findings and recommendations in a company **environmental policy**; calculate the business's total carbon emissions and set challenging but achievable reduction targets.
- Run **heating** at lower levels: compensate with warmer clothing. Provide good **heating control** (a seven day programmer, thermostatic radiator valves, and room thermostat should be a minimum requirement).
- Ensure **catering, food and drink dispensers, use local produce** and suppliers to minimise mouthful-miles
- Ban tungsten filament lamps from all space lighting - replace all lighting with **energy-saving lamps** (based on fluorescent technology). Assess lighting strategy; ensure sufficient light is supplied only where it is needed and make maximum use of natural light.
- **Recycle** everything that can be recycled, especially paper. Some scrap will have a value. **Compost** all biodegradable waste. Good compost is always useful and also has a value.
- **Purchasing**: all equipment from computers, to materials, to tools, to vehicles, should be as energy efficient in design life cycle as possible. Always assess the credentials, ethics and environmental policy of your suppliers carefully and if possible use local supply, materials and support.
- **Uniforms and branded work-wear**: negotiate with approved suppliers for fabrics that are eco-friendly, and ethically or locally sourced.
- **Savings** on fuel bills, lighting, recycling, and efficient, environmentally conscious purchasing, could be ring-fenced to pay for medium-term measures discussed below.

### MEDIUM TERM MITIGATION MEASURES: what the business should be doing over the next one-three years.

Budget for **capital programme** alterations to premises to reduce carbon emissions and improve on operating costs through an assessment of:

- **Sun-pipes and roof lighting** in dark corridors and working areas in which lights are used even on the brightest days. **LED** lighting is also now available, providing light at extremely low power.
- **Heat pumps** for heating in winter, and possibly cooling in the summer, operate at efficiencies between 200-400%.
- **Solar panels** to heat water for hot water supply systems. Particularly beneficial where hot water use is significant or for swimming pool heating.
- **Rainwater harvesting systems** for supply of rainwater to WCs, washing machines and at outdoor taps.

- Improve **insulation** to older buildings and in the specification of new buildings (roof voids, under-floor, and in cavity walls).
- **Heat recovery ventilation systems** for spaces where both ventilation and heating are required.
- **Passive ventilation systems** for rooms or spaces reliant on artificial ventilation and that require little heating.
- Convert existing or new heating systems to run on **sustainable bio-fuels**, which will be carbon-neutral if local supply is used.
- **Wind turbine** generating electricity to use on site or export.
- **Photovoltaic panels** generating electricity to use on site or export.
- **Any of the above will stand the business in good stead for the introduction of carbon trading or taxation in the future.**
- Build awareness that the 'Sustainable Business' is likely to be a **marketing asset** in both the market and in recruitment of staff
- **Bio-diesel** manufacture on site from used vegetable oil or an oil producing crop. Processing equipment can be obtained to produce fully filtered clean burning bio-diesel if a source of oil is available. In the same vein, on-site production of **food or source materials** (through crop cultivation or kept livestock) should be considered if appropriate. Local or even onsite supply is likely to become increasingly important in ensuring future company stability as well as sustainability.
- Form alliance of local **businesses** (to share knowledge, technology experiences, leadership on best practice and environmental policy). A conglomeration of businesses will have greater buying power and where necessary greater lobbying power.
- Offer **consultancy** to other similar businesses on eco-policy development and workable implementation.
- Build sustainability-awareness into **staff activity and training**, so that every employee understands the environmental impact of personal behaviours and choices. A few ideas:
  - Develop **eco-cultural twinning through IT** with similar businesses in parts of the world affected by the developed or developing world CO<sub>2</sub> emissions: e.g. Alaska (traditional lifestyles being destroyed by retreating ice), sub-Saharan Africa (suffering crop/pasturage failure through drought).
  - Calculate net annual tonnage of CO<sub>2</sub> emissions and offset through land purchase and new tree planting (it is NOT good enough to 'offset' by buying existing forest and protecting it); Use the **true net offset** of a single tree over a period of fifty years if adopting this approach
  - Use of demonstration as your services and facilities allow in a cheap, fun but informative way. For example: connect a static **exercise bike to a dynamo** to experience just how much energy is required to power a 40watt tungsten filament bulb.
  - **Recording seasonality**, record temperatures and other key weather parameters on your premises to build a picture over time of local climate change impact and how it is directly affecting your location and your business.
  - **Showcase a renewable energy installation** generating for the site and provide a display board and read-out of production in a communal area.

## **LONG TERM MEASURES: what the business should be doing to create the responsible 'carbon neutral' enterprise of the future.**

All new buildings to be designed to:

- Use materials that are from sustainable sources and minimise CO<sub>2</sub> emissions in production.
- Be carbon neutral in lifecycle impact.

All working practices to:

- Be energy efficient and if possible carbon neutral. Consider forming a sustainability working group. Sustainable operation is an ongoing process of evaluation and improvement and the strategy should continually be updated.
- Use local skills and suppliers, and materials from sustainable sources.
- Encourage similar practices to business partners and associates and share information or offer consultancy.
- Minimise influence of external factors such as national energy supply and carbon taxation through on-site energy projects.
- Educate staff and customers alike on how they may reduce their own carbon footprints at home and at work, in a relaxed but informative way.

**Natural Generation are designers, technical consultants, suppliers and installers of renewable energy systems including wind, solar, and heat pump technologies.** We can also assist with many other energy saving services or projects including rainwater harvesting, sun-pipe natural lighting and ventilation, heat recovery ventilation, and low energy lighting. Natural generation can also provide more detailed individual energy efficiency advice as well as packages and hybrid designs. Natural Generation are fully BRE accredited.

Contact us, to find out more on how Natural Generation may help you and your business change and adapt to the challenges of the future, **now**.

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