

Krofire Enterprises Ltd
Energy Usage Policy (for Carbon Neutrality)
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1 Objective

Krofire believes there are three 'Energy Security' challenges:

- Demand for petroleum-based products can only rise whereas its supply can only fall. Hence the oil price will rise dramatically and quickly to a point of global economic collapse. Any dependence upon non-sustainable energy sources makes everyone vulnerable to violent economic change.
- Dwindling reserves of fossil fuels are sourced from regions of great instability. Increasing wealth will flow from western nations to these regions causing widening inequality, social injustice and global violence. Over-reliance on over-seas oil will increase the possibility that military force will be used to secure supplies, which is morally & ethically unacceptable.
- Carbon dioxide is a 'greenhouse gas' and Carbon Emissions cause global warming that destabilises the climate of the planet. Unpredictable and violent weather patterns will undermine the global economy and harm the lives of millions. Potential Government legislation will penalise the production of unnecessary Carbon Emissions.

There is no future for fossil-fuels. A business addicted to cheap oil is destined for destruction. A future business is one with energy security. Entrepreneurs do not seek leadership from Government – they know it will not be forthcoming and cannot wait. Leadership is necessary from each individual business to influence others by example:

- Energy security allows a business to plan ahead for future prosperity. A low-energy regime builds confidence and makes us ready for the future.
- A zero-emission or 'Carbon Neutral' Company has competitive edge. Leadership is a quality our customers will value.
- Reduced energy usage will reduce operating cost and enhance margin and/or price advantage.

The low-carbon/carbon-neutral future is an opportunity not a threat. This policy document outlines practices and measures that are not obligatory on Krofire Enterprises Ltd. This policy is NOT required for legal compliance and is entirely voluntary.

2 Principles

Krofire is a small service contract company specialising in knowledge communication. Its operation is intrinsically low-energy; it manufactures no products and has only one employee (with potential for more in future). Krofire possesses and exploits practically no plant or office space apart from a mode of transport and some computer hardware. Krofire relies upon Human Capital (ie, a Consultant) and prefers communication of knowledge with electronic media-forms (ie, Web sites).

Therefore an annual report with precise measurements of Energy usage & CO₂ emissions is not necessary or practical as this information can easily be estimated from available non-industrial metrics. These factors would give the impression that little can be done by a very small business to make a difference. What will motivate us to stop burning oil? To answer this Krofire Enterprises Ltd has drawn up the following principles:

- Energy used from non-renewable or carbon-emitting sources must be avoided and reduced
- Krofire Enterprises Ltd will make use CO₂ sequestration through forestry to 'offset' CO₂ emissions where no other substitute exists and all other measures have been taken to avoid & reduce
- The cost of offset shall be treated as a self-enforced voluntary 'carbon tax' in lieu of a Government enforced equivalent
- Calculations of energy use/CO₂ emissions will be based on factors within our control so that the Business or its Director will be motivated to take appropriate measures
- We will substitute factors beyond our control with factors within our sphere of influence
- We will pay for CO₂ offset on behalf of our Clients (indirects)
- The calculation of the CO₂ emitted through the use of our Client's premises will be based upon the equivalent use of a 'home office' (based upon 20% of the use of a domestic residence for 100% of the year)
- The calculation of the CO₂ emitted through the use of private transport to and from the Client's premises will be based upon the use of the Employee's own vehicle (based upon actual business mileage)
- The offset related to Business Mileage and 20% of domestic property will be paid for by the Business
- The offset relating to 100% of all other transport in the pursuit of business shall be borne by the Business, ie, air travel
- The employee remains responsible for the offset for 100% of the usage of the domestic residence and any private miles used in any vehicles used by the family of the employee plus any other contributors such as air travel
- The Company Director pledges to fund 100% of capital or running costs in related to any CO₂ avoidance/reduction schemes even though such measures are voluntary

3 Meeting the Challenge - Scope

This Policy shall be split into two main topic areas:

- Transportation – ground & air (mostly a 'direct' emission producing activity)
- Home Office – electricity & gas plus energies expended in generating materials or delivering services (mostly an 'indirect' emission producing activity)

The opportunities and threats will be assessed in each area and actions taken year-on-year. A number of measures are to be taken. Some measures are big, some small. Some complicated, some simple. Some expensive, some cheap. There is no one solution. Krofire is dedicated to a package of measures including:

- Measure energy usage and carbon emissions
- Reduce carbon emissions & energy use (includes re-use & recycling)
- Home energy production
- Offset remaining Carbon Emissions
- Promotion of a Carbon Neutral operating practice
- Continuous improvement

The measures listed below are those already (or are about to be) employed by Krofire Enterprises Ltd and its Director in the domestic 'home office' and personal transport.

4 Transportation Policy

There are three ways of encouraging reduced Carbon Emissions from transportation:

- Avoid - Don't travel – work from the 'home' office as much as possible
- Reduce - Use various forms of public transport
- Reduce - Choose personal transport that is fit for purpose
- Reduce/Avoid - Use alternative fuel options for personal transport
- Reduce - Appropriate use
- Offset whatever is left

4.1 Working from Home

The Business is currently heavily reliant upon transportation in order to bring the Human Capital to a location where our Clients are willing to pay for it. This location is typically the Client's own site in

order that the Human Capital can interact with other Team Members and perform the Knowledge Transfer in the most efficient means possible. Currently very little of this can be done remotely.

However, there is scope in the knowledge-based industry to provide certain types of services remotely. Such services include technical configuration of systems, documentation and user/system support. Therefore Krofire will seek opportunities to exploit home working as much as possible. Where home working is not possible then any travel should be minimised.

4.2 Public Transport

Public Transport is already utilised for travel within major cities where the over-riding consideration of parking and congestion charging preclude the use of private transport. Such areas are usually dense in suitable public transport options. However, as much of Krofire's transportation requirements are to locations poorly served by public transportation networks then private transportation is mostly used. There are other considerations such as the unreliability of public transportation in providing a Business-like service and the practical difficulties in moving luggage long distances for multiple over-night stays. Excessive time spent in the public transportation makes certain types of long-distance travel impractical, for Business purposes, as they would entail longer stays away from family.

Until permanent degradation of lifestyle is unavoidable, due to the lack of availability of substitutes, then the exploitation of public transportation remains extremely low in the operation of Krofire's business. There remains some business-disadvantage to using some classes of transport even if it is only one of the poor perception of such transport in the Business Community in comparison to prestige brands of personal transport.

4.3 Personal Transport Fit for Purpose

Where personal transport is required then this should be fit for purpose. As 99% of all car mileage is with one occupant, plus luggage, then the vehicle should be appropriate. It should be of minimal size and weight. No more than two seats are necessary. As 80% of all mileage is on motorways then the vehicle should at it most efficient under those conditions (exceeding extra-urban 42 mpg, as a guide).

4.4 Alternative Fuels

To further reduce carbon emissions all forms of alternative fuels need to be explored. If no non-carbon alternative is available then the next best bio-Diesel, Diesel or bi-fuel (LPG) option must be explored.

4.5 Appropriate Use

Private motor vehicles should not be used for unnecessary journeys of off-road sport events. Journey's should be shared. Various different activities should be combined into one journey. Travel on all roads will be restricted to national speed limits plus 10% margin of error.

4.6 Offset

With the help of Future Forests Ltd Krofire Enterprises Ltd will offset any unavoidable Carbon Emissions resulting from transportation.

4.7 Actions Taken

The one vehicle used for 100% of all Company activities was a five-seat saloon using petrol. This will be replaced by a more efficient bi-fuel two seater, which will utilise LPG. LPG burns cleaner than petrol and is sourced locally. This vehicle to be used for a minimum of five years not three. This vehicle to delivered from January 2005. This initiative has been launched and paid for by the Company Director from private funds.

5 The 'Home Office' Policy

There are many ways to influence our employee to live a lower carbon existence in their own 'home office':

- Avoid/Reduce energy waste
- Reduce - Recycle materials that would otherwise consume energy in replacement
- Reduce - Re-use items that do not need replacement, avoid disposability
- Avoid/Reduce - Generate your own zero-carbon power
- Avoid - Switch Energy suppliers to green sources
- Offset whatever is left

5.1 Avoid/Reduce

This policy includes as many of the following actions as possible:

- Fit energy efficient light bulbs
- Replace energy-inefficient appliances with energy-efficient model (only when they are due for renewal)
- Employ best practice draught proofing and insulation of roof spaces (recommended 200mm of glass-fibre mineral wool), walls, pipes and hot water tanks
- Switch off appliances not being used and use energy-saving modes on some electronic equipment
- Use as little paper as possible by maximising the use of electronic media
- Make best use of heating regulators, timers and thermostats to deliver heat when and where it is needed (recommended temperatures are about 20degreesC in living rooms & 16degreesC in bedrooms)
- Recommend the wearing of suitable clothing as a preference over turning up the heat
- Buy office equipment and consumables based upon their verifiable 'green' credentials
- Do not own or use Air-Conditioning, a Dishwasher or Tumble-Drier

The reduction policy extends to the actions of the Employees on Client Site and within any Hotels used in the execution of Business activity. For example the Employee will make every effort to avoid the unnecessary use of energy through the use of lighting, laundry, etc.

5.2 Recycle

This policy includes as many of the following actions as possible:

- Recycle all paper, plastic, glass, printer cartridge and green bio-degradable waste where facilities exist
- If facilities don't exist then create your own (for green waste). Do not make special journeys in order to recycle – combine such journeys with other necessary journeys you had to make anyway
- Buy products made from recycled materials
- Use only products that can be recycled

5.3 Re-use

This policy includes as many of the following actions as possible:

- No disposable cups should be used. Ceramic mugs must be used.
- Repair items where possible
- Use rechargeable batteries

5.4 Generate

Investigate the use of renewable energy sources such as photovoltaic installations.

5.5 Switch

Where it is completely impractical to generate your own power switch to power suppliers who are generating from renewable resources.

5.6 Offset

With the help of Future Forests Ltd Krofire Enterprises Ltd will offset any unavoidable Carbon Emissions resulting from the use of the 'home office'.

5.7 Actions Taken

From the New Year/Spring 2005 a 1.5 kWp Kyocera module bolt on system, generating 1200 units of electricity per annum will be installed on Krofire House. This will cost £7600 fully installed including scaffolding and VAT (£3800 after grant). This should qualify for Ofgem Renewables Obligation Certificate (ROC) accreditation. A 1.5 kWp system would qualify for 2 ROCs per annum (worth £49 each at the last auction price before commission). This initiative has been launched and paid for by the Company Director from private funds.

At the same time the energy suppliers to Krofire House will be changed to suitable renewable suppliers. Current front-runners are Ecotricity (once they have launched their Solar Tariff) of nPower's

'Juice' scheme for electricity. These generators use Wind Farms. A supplier for Gas will still need to be chosen but this will be chosen based upon price if no 'greener' alternative can be found. Current front-runner is PowerGen.

6 Promotion of Carbon Neutrality

From the New Year 2005 (as our various schemes mature) Krofire Enterprises Ltd will be seeking CarbonNeutral accreditation for its service provision from Future Forests Ltd. From this point on (if successful) we shall be promoting the Carbon Neutral logo and Future Forests Ltd on our web sites and all related electronic media.

As part of this promotion Krofire Enterprises Ltd will publish this policy on a year-by-year basis with associated Business Energy Assessment for Krofire House and Transportation. This will include details of ongoing measures and new initiatives, costs, estimated carbon output and offset employed. Every effort shall be made to make this reporting consistent and accurate. Data shall be published yearly on the Company Web Site for open scrutiny. Krofire Enterprises Ltd will seek the help from Future Forests Ltd in calculating the CO2 emissions and resulting offset costs related to its business activity.

7 Continuous Improvement

Current activities shall always be a means to an end – the 'ends' being a complete end to fossil fuel reliance. Each year it may become harder and harder to make any gains in this effort. However, the goal will remain the same every year until it is achieved. This is not a fashion statement of a fad.

Global warming, must be tackled continuously until resolution. For this reason Offset Strategies can be adopted. However, these are part of the solution and are not, by themselves, a solution. There may well be a theoretical limit to our abilities to offset carbon emissions. For this reason our ability to offset may well decline over the years. In the longer term the offset strategy will be phased out leaving, in its place, genuinely carbon-free power sources. However, this is for the very long-term and Krofire Enterprises Ltd is expecting to be offsetting for the foreseeable future.

Until such time as universal carbon-free energy provision is realised then the only alternative is continual improvement in this Business's efforts to avoid, reduce, re-use, recycle, offset, promote and improve.

Mark Brown
November 2004

8 Appendices

8.1 Definitions and Assumptions

Where this document refers to "Krofire", "Krofire Enterprises Ltd", "us", "we" or the "Business" then these terms are intended to be used interchangeable without dilution of meaning.

Where this document refers to "offset" it is mostly referring to the sequestration of CO₂ through forestry. Krofire Enterprises Ltd recognises that CO₂ is not the only green house gas (GHG) but the emissions of others, in the performance of Krofire's business activities, is taken to be negligible (ie, less than 2.5% of the total).

The terms "CO₂", "Carbon Dioxide", "greenhouse gas", "Carbon Emissions" and "carbon" shall be used interchangeably and should be interpreted as 'green house gasses'. Likewise the terms "non-sustainable energy sources", "non-renewable" (energy), "carbon-emitting" (energy), "oil", "fossil-fuel", "petrol" or "petroleum" shall be used interchangeably and will all refer to the hydrocarbon-based fuels that emit carbon when burnt.

The term "Carbon Neutral" is as defined by Future Forests Ltd and represents any enterprise where measures have been taken to avoid, reduce or offset the carbon emissions of that enterprise so that the net emission is effectively zero.