



GN4-1 NA3-T3 Best Practice Document

Poster / Diagram with 50 Eco-Friendly, Cost Saving Ideas for Offices/Business/Homes

Last updated: 25-10-2015

Project: GN4-1

Activity: NA3T3 / The Greening of Services

Dissemination Level: Final Draft

Authors: Nicoletta Tsioroli, Petros Ioannou

© GEANT Limited on behalf of the GN4 Phase 1 project.

The research leading to these results has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement No. 691567 (GN4-1).

Table of Contents

1	Executive Summary	2
2	Introduction	2
3	Overview of 50 Eco-Friendly, Cost-Saving Ideas	2
3.1	Lighting & Electrical Appliances.....	2
3.2	Heating	3
3.3	Water Conservation & Capture.....	3
3.4	IT Equipment & Infrastructure.....	3
3.5	Recycling	4
3.6	Reusing Furniture, Fixtures & Equipment.....	4
3.7	Reduce Consumption in your Office	4
3.8	Green Marketing	4
3.9	Sustainable Interior Design.....	4
3.10	Greening your Building.....	4
3.11	Generating Off-Grid Power.....	5
3.12	A Greener Environment.....	5
4	Conclusion	5
5	Table of References	6

1 Executive Summary

Cyprus Research and Academic Network has committed to create a poster with the Top 50 Eco-Friendly ideas for Business / Organizations under the scope of GN4 Phase 1 – NA3-T3 Activity – The Greening of Services. A short description of each one tip / idea will follow in this document.

In addition, a poster and a diagram will be created with all ideas, and it will be placed at CYNET premises and sent via email to CYNET employees and members for briefing. Also, both poster and diagram will send to the activity and other NRENs aiming to share with them some ideas for energy savings.

CYNET's members (Research and Educational Community) and partners in Europe could use the outcome of our work, in order to enhance their awareness in environmental issues.

2 Introduction

This "Energy Saving Report" has been prepared as a guideline for everyone in any organization or home aiming to the energy conservation and cost savings. Useful and practical tips are provided and grouped into several categories as shown in the below sections.

Some of the below tips / ideas are simple housekeeping practices that require minimum cost, and they should be implemented today. By adopting at least some of them can brings more savings at reasonable cash outlay, because of the energy savings. Some of our ideas require substantial capital investment, but promise even greater savings on long term.

3 Overview of 50 Eco-Friendly, Cost Saving Ideas

This section provides a quick description of all energy saving idea, setting them into several categories:

3.1 Lighting & Electrical Appliances

- Energy Saving Light Bulbs: Compact Fluorescent Lamps (CFL), Halogen and LED light bulbs can save huge amount of energy and bring long-term financial savings.
- Light Dimmers: Light dimmers can adjust varying levels of natural light in the room.
- Cleaning and Maintenance of Electrical Units: Improve the efficiency of your plant and machinery by regular cleaning and maintenance of electrical units, heating appliances and lighting fixtures.
- Motion Sensor: Use motion sensor lighting especially for rarely used rooms. The lights will always remains switched off as long as there is no any movement in the place.
- Timers and Smart Control Systems: Timers and smart control systems can switch off devices when we are not using them. This can be done either by predefined timer, remotely or using their ability to understand when a device is not needed to be switched on.
- Energy Bills: Understand your energy bills to determine where is your "energy bottleneck" and try to eliminate it.
- Overnight Charging: During the night, cheaper electricity rates are applied, thus, charging of appliances and heating units overnight, will reduce the electricity bill.

3.2 Heating

- Bleed Radiators: This maintenance exercise eliminates air that has accidentally gotten into the radiator coils and ensures that the radiator heats up evenly and operates more efficiently.
- Power Flushing: Cleaning your central heating system can reduce fuel wastage by a third. The benefits of a clean heating system are, the improvement of overall energy savings, lower household bills, increase system reliability and increase the lifespan of your system.
- Under Floor Heating Systems: It can deliver a rapid and uniform distribution of heat, which helps optimize your energy costs.
- Unobstructed Heaters and Radiators: Heaters and radiators must always be unobstructed by office furniture. Also, in unoccupied rooms or in busy spaces and corridors where people move quickly the thermostat must be reduced.

3.3 Water Conservation & Capture

- Cistern Displacement Devices: You can fill those devices with water and lay them inside the toilet cistern to reduce the flush volume.
- Motion Sensor Taps: Install motion sensor taps in public washrooms to prevent running water when not in use.
- Instant Electric Hot Water Taps: Instant Hot Water Taps are connected directly to cold water pipes replacing your existing tap and generates hot water instantly. If you are waiting up to 10-15 seconds for your running tap to generate hot water, in the course of a year, you could be wasting literally thousands of liters of water. Those devices recycle the existing cold water and instantly the hot water starts to flow.
- Rainwater Harvesting: Recycle grey rainwater with the use rainwater tanks, and use the recycled water for toilets or landscaping.

3.4 IT Equipment & Infrastructure

- Energy Efficient Equipment: Buy only energy efficient IT equipment rated with Energy Star (<https://www.energystar.gov/>) and exist under all major computer brands.
- Timer Options: Use the timer option on servers and software that monitor all computers on the network. You can set any unused device to shut down at a particular time during each day.
- Intelligent Energy Monitoring: It shuts down peripheral devices (printers, scanners, monitors, external speaker systems etc.) when a computer is not in use. During sleep mode a signal is sent by USB cable to the plug board and specific sockets on the board are shut down.
- Sleep Mode: Use the sleep mode feature for laptops, PCs and other peripheral devices when permitted.
- Green Ethernet: Connect your devices using green Ethernet. If there is a period of network inactivity, the switch transfers to an idle state the ports to reduce the waste.
- Smart PDUs: Install Smart Power Distribution Units to continuously monitor in real time the power consumption of your IT / Networking infrastructure. This can help the organization to take steps to minimize its power consumption.
- Use The Cloud: Decrease printing and use online document / file sharing applications such as Google Drive, DropBox, OneDrive.
- Green Apps: You can use apps that covers the green living as a whole or focus on niche areas — such as energy conservation; recycling and upcycling; eco-friendly products, and green living — at home or at work. App can be as simple as an app listing local green businesses, or something complex and interactive that users can enjoy on a day-to-day basis. It can also be an educational app that teaches children about going green and help them grow up to be environmentally conscious citizens.

3.5 Recycling

- Recycle Everything:
 - Old electronic appliances can be exchanged with new ones.
 - Recycle your cell phones, computers, and other electronics responsibly when the time comes. E-waste contains mercury and other toxics and is a growing environmental problem.
 - Salvage old furniture by sourcing them at liquidation stores and auctioneers.
 - Empty ink cartridges can be sold back to recycling agencies.
 - Paper, cans, boxes, plastics, glass and many more can be also sold to recycling agencies.

3.6 Reusing Furniture, Fixtures & Equipment

- Restore and Upcycle: Old or discarded furniture and fixtures should be given to upcycling centers. Those centers will restore them using their up-cycling skills.
- Use Second Hand Goods Portals: Online buy & sell portals in your area could help you to exchange or sell used items.

3.7 Reduce Consumption in your Office

- Office Paper Reduction: Use both sides of paper when photocopying and also use the back of discarded documents as notepaper instead of buying fresh notepads.
- Email instead of Printing: Prefer to email documents rather than printing them. You will save huge amounts of paper and save time and energy.
- Avoid Paper or Plastic Cups: Use your mugs or glasses at the water cooler and get reusable portable coffee mugs, in order to reduce disposable coffee cups.

3.8 Green Marketing

- Use Email Advertising: Instead of direct mail or promotional flyers or any other promotional material use your email when you address to regular customers.
- Social Media Marketing: There's no better cost effective, efficient, environmentally friendly method for advertising than using social media.

3.9 Sustainable Interior Design

- Better Surface Design: Work areas with lighter colors and brighter surface design materials will maximize the effect of natural lighting.
- Better Desks Position: Position desks closer to natural light to maximize the use of natural light sources and to reduce the onset of SAD (Seasonal Affective Disorder).

3.10 Greening your Building

- Building Insulation: Use of synthetic or natural products to create more energy efficient buildings, protection against damp and the formation of mold. It can be installed during new-build construction or retrofit of your property.
- Cavity Wall Insulation: Foam, sheep wool or recycled eco friendly natural products can be installed in the spaces or cavities between two walls and may be a relevant retrofitting exercise in an older property that consists of masonry or block walls with a gap of at least 50mm between them.

- Internal Wall Insulation: Dry lining can be used, a form of internal wall insulation that involves fixing insulation to the inner surfaces of your external walls and covering it with a vapor barrier layer and plasterboard.
- Outsulation (External Thermal Insulation): Is applied to the exterior walls of a building and it can be cost effective, durable against all weather, versatile aesthetically and energy efficient at the same time.
- Insulated Glazing: Install doubled or tripled glazed windows to keep buildings warmer and reduce heat loss.
- Building Air Tightness: Air tightness systems involve creating an internal envelope around the complete building thus sealing all gaps and cracks. This will lower heat loss and therefore energy costs in your building, whilst improving air quality by preventing warm air from escaping or cold air to seep through.
- Air Duct Cleaning: It is important to regularly clean your ventilation systems to improve their efficiency. Dust, debris and other particles are collected in ventilation systems and could make a home much less energy-efficient.

3.11 Generating Off-Grid Power

- Micro Generation Systems: Own your own micro-generation system. Use natural recycled fuel or renewable energy to produce energy for your premises or even feeding back into the energy grid. Examples include:
 - Solar Panels
 - Wind Turbine
 - Geothermal Heat Pumps

3.12 A Greener Environment

- Environmental Policy: Having an environmental policy is an important step towards a truly sustainable organization.
- Carbon Footprint: Perform annual Greenhouse Gas (GHG) audit reports, analyze the results and identify the areas for improvement in your organization.
- Car Sharing and Carpooling: Car sharing with workmates that live nearby. Just drive a short journey or walk to each other's house and share one car to go to work.
- Start Using a Bicycle: Biking, instead of driving, a short distance is better for both the environment and your health.
- Public Transport: When this is possible use public transport. It's cost effective, convenient and eco-friendly.
- Work From Home: Employees who live far away can choose to work from home one day a week. The office efficiency will improve, the air pollution will reduce and your productivity will increase.
- Telecommuting: Consider telecommuting if you live far from your work. Or you can consider moving closer, even if this means paying more rent, it could save you money in the long term.
- Business Networking: Use online resources to start your business networking easily from your sofa.
- Electronic Banking: Use electronic banking as much as possible or online payments systems to avoid unnecessary trips to the bank, delays or environmental pollution.

4 Conclusion

CYNET is willing to promote good practices and actions that can be performed with minimum cost and work effort, to raise the awareness of its employee and members on environmental matters.

A way to achieve this is by promoting our "Top 50 Eco-Friendly Ideas", through a nice poster and a diagram, which will be an easy to remember and pleasant way to share our thoughts about the Environment.

5 Table of References

- <http://tweakyourbiz.com/management/2012/11/27/100-green-monster-tips-ethical-eco-friendly-cost-saving-ideas-business/>
- <http://www.businessnewsdaily.com/5102-green-business-ideas.html>
- <http://tweakyourbiz.com/management/2012/11/27/100-green-monster-tips-ethical-eco-friendly-cost-saving-ideas-business/>
- <http://www.greenonlinebusiness.net/green-business-ideas/>
- http://www.seai.ie/Publications/Your_Home_Publications_/Energy_Efficiency/Power_of_One_booklet.pdf
- <https://www.progress-energy.com/carolinas/home/save-energy-money/energy-saving-tips-calculators/100-tips.page>
- <http://www.energyland.emsd.gov.hk/en/tips/building/intro.html>
- <http://greatist.com/happiness/eco-friendly-tips-save-cash>
- <http://www.50waystohelp.com/>