



Best Practice	GREE IT IN OFFICES	OFFI-02
Application	Energy efficiency in offices	
SME sector	All	
SME Sub-sector	All	
Recommendation for optimisation	<p>The use of green IT devices concerns the application of energy-efficient computers, monitors, printers, photocopiers, and telecommunications devices.</p> <p>We must not only consider their purchase, but also their efficient use:</p> <ul style="list-style-type: none"> • Evaluate the current situation through an inventory of the devices used, including size and time of use on the power grid. Evaluate the energy consumption of individual devices to optimize their use or consider a reasonable replacement. • Buy smart meters to identify users who use too much energy or unnecessary loads (for example old inefficient monitors) and to always have an overview of their energy consumption • Purchase removable plugs to avoid stand-by • Centralize office equipment on a network so that multiple employees can use them • Virtualize corporate servers • Check the server room using cooled shelves. • Automate the processes of IT devices, such as backups. This allows processes to take place when the system has free capacity and thus to make efficient use of resources <p>Optimize the management of data and files in your company</p> <ul style="list-style-type: none"> • Small computers are sufficient for using office programs, sending e-mails, surfing the web. Thin clients are even cheaper. They are computers equipped only with a monitor, keyboard, mouse, and headphones. Advantages: very low energy consumption, easy management, and hardware savings because the software and storage are located on the server, reasons that usually lead to the purchase of new computers, when the old ones become too slow, and their software is no longer compatible with the new updates. <p>Consider replacing old devices with newer, more efficient components like SSD hard drives, rather than buying new computers</p> <ul style="list-style-type: none"> • It is more sustainable to use a multi-purpose device for scanning, faxing, and photocopying rather than one for each of these activities. • Choose the right printer. Today, most offices use laser printers. 	



	<ul style="list-style-type: none"> • Buy devices if they need to be replaced (monitors, computers, servers, fax machines, etc.) classified and consider the energy consumption especially of devices that cannot be turned off. <p>Some good practices to adopt at the office: Use switchable outlets, switch off computers for breaks longer than 30 minutes (e.g., meetings or lunch breaks), switch off printers and photocopiers at night and on weekends, do not use screensavers, activate power management, disconnect chargers (phones, tablets).</p> <p>In the meeting room, LED videos should be used instead of beamers. Consider using a workstation for multiple employees. Employees can also use laptops for work from home and share other devices or equipment.</p> <p>Motivate your team. Let employees make suggestions for improvement, collect them, reward them when they are successful. Form energy teams and walk through the office and measure single devices using energy meters to detect energy waste. Use materials like stickers, flyers, or reminders on the intranet. Reporting successes.</p>
Relevant technical considerations	<p>There is currently no computer on the market that is completely "fair" or ecologically produced. Nevertheless, there are various quality labels that show which devices meet which standards. For example:</p> <ul style="list-style-type: none"> • www.eu-energystar.org shows whether a device is energy-efficient • www.topten.eu • www.blauer-engel.de shows whether a product has low energy consumption and is durable and recyclable. • www.tcodevelopment.de has many criteria that are included in the evaluation: energy efficiency, environmental friendliness, content of hazardous substances, ergonomic design, product service life and corporate social responsibility in the production facilities.
Economics	<p>Thin clients are generally inexpensive.</p> <p>Costs starting from 300 EUR</p>
Energy savings	<ul style="list-style-type: none"> • Virtualizing enterprise servers reduces server power consumption by a half • Small computers 15 to 25 W (a desktop computer: 50-100 W, portable 30-50 W) • In print mode, ink printers require an average of 10-20W, while laser printers require 300-400W
Economic savings	<p>Lower costs due to reduced heat and electricity consumption.</p> <p>Using the printer for 1 hour per day and switched on for 8 hours, the annual electricity costs generated by an inkjet printer are up to 90% lower than a laser printer. On average, savings is around EUR 160 per printer per year (source: EPSON).</p>



Average Payback Time	Less than 3 years or 3-6 years.
Emissions	This measure does not involve further emissions.
Environmental benefits	Reduced CO ₂ emissions due to lower energy needs.
Main NEBs (Multiple benefits)	<input checked="" type="checkbox"/> Environmental benefits <input checked="" type="checkbox"/> Increased productivity <input checked="" type="checkbox"/> Work environment/Health/Safety <input type="checkbox"/> Increased competitiveness <input type="checkbox"/> Maintenance
Replicability	High
Related measures	<ul style="list-style-type: none"> • OFFI-01: Optimizing indoor climate and comfort in office building considering energy efficiency aspects
Case study	<p>Application of energy saving measures (Germany, 2016)</p> <ul style="list-style-type: none"> • Initial Situation: not specified • Description of the optimisation: the following energy saving measures have been implemented <ul style="list-style-type: none"> - Virtualization: One of the two physical servers was taken from the network - Replacement of old phones by new VoIP phones that can be cut off the network if not used - Replacement of the fax device by digital fax software. - The WLAN is now completely off on weekends and after work and the server switches and the VoIP phones are switched off outside business hours - Detachable plugs were installed at desk to switch off PC, monitor, printer, VoIP phone during individual absences during working hours (meeting, travel, holiday, sickness) - Detachable plugs were installed at the printer, the server rack, the access point, the test server, the fan and the stereo - Optimization of IT by synchronization of test scenarios for IT systems to minimize energy demand and by black screen monitor settings after 5 minutes' absence - Energy loggers at all desks for PC, monitor, printer, phone and server rack - Replacement of old monitors and IT switches for internal use (24 W by 14 W) - Replacement of halogen lamps by LED (some lamps were even taken away as the lighting quality was sufficient)



	<ul style="list-style-type: none">• Implementation costs: not available• Payback Time: 3 years
References	http://www.greenitamsterdam.nl/wp-content/uploads/2019/02/AGIT-LB-Whats-up-in-Green-IT-2018.pdf

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