

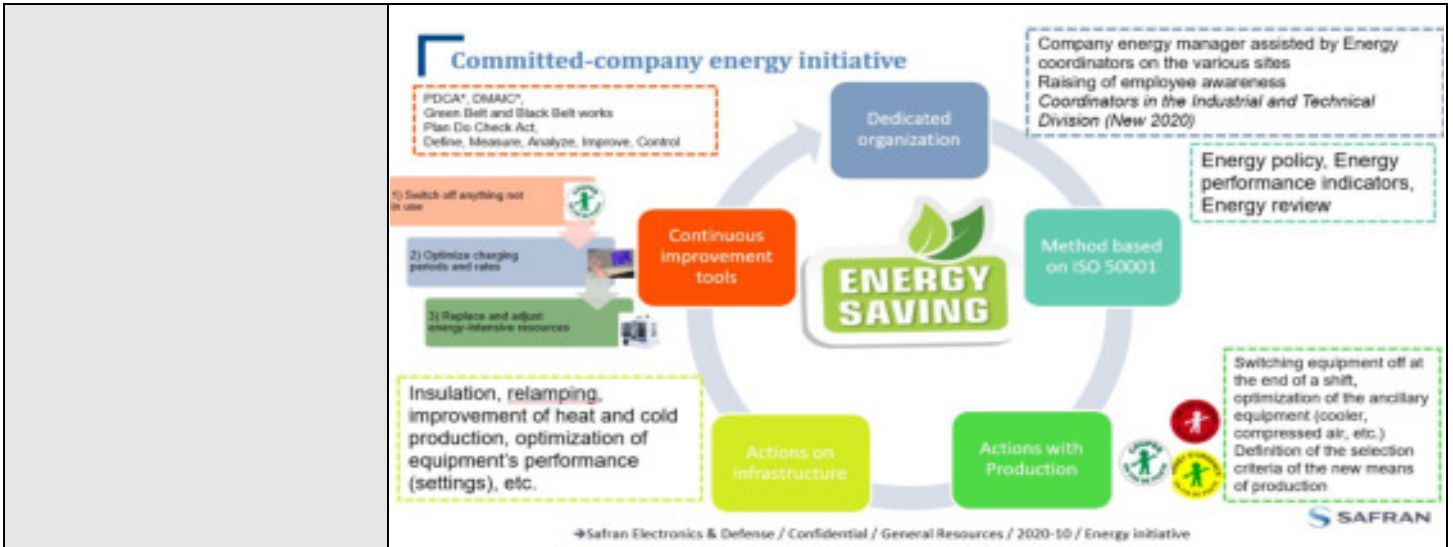


Green Days: eco-habit initiative to save energy



Safran Electronics & Defense implemented on its Montluçon site a Green Days initiative that was broken down into several actions that aimed to save energy and improve energy efficiency, thereby reducing the site's carbon footprint.

Starting date of the project	Initiative implemented in 2012 on the Montluçon site.
Project Localisation Places of implementation of the project at this stage and targeted geography if replicable.	Initiative implemented on the Safran Electronics & Defense site in Montluçon, France. Initiative that can be reproduced on all of the Group's industrial sites.
Project objectives Type of climate innovation of the project with a description of the problem/issue addressed	<p>Aim of the Green Days initiative: to save energy and reduce the GHG emissions of the Montluçon site thanks to investments made on the site and the roll-out of best practice (eco habits)</p> <p>This initiative responds to the following sub-goals:</p> <ul style="list-style-type: none"> • To address the obsolescence, age or regulatory noncompliance of certain infrastructure-related equipment (refrigeration units, boilers, lighting) through energy-saving actions. To integrate safety issues; • To involve all employees in the initiative; • To work on the infrastructure as well as the processes
Detailed project description	<p>The Green Days initiative on the Montluçon site was broken down into various actions which were taken:</p> <ul style="list-style-type: none"> • Implementation of an energy-saving initiative based on the ISO 50001 method (roll-out of an "energy" policy and energy-performance indicators); • Implementation of a dedicated organizational structure with an energy manager and coordinators responsible for leading the initiative in the various workshops; • Use of continuous-improvement tools like the Green Belt workshops (Lean Transformation): optimization of electricity use on weekends, energy efficiency of the clean rooms, efficiency of the means of production, etc. • Energy-saving actions on infrastructure: insulation, relamping, improvement of settings and management of the installations; • Actions on production: switching equipment off at the end of a shift, optimization of the ancillary equipment of the means of production (cooler, pump, etc.), definition of the selection criteria of the new means of production engineering; • Grouping of heat, cold, compressed air and vacuum production processes in an adapted building: the Energy Building. These means of production were old, disproportionate and noncompliant in a few areas. This five-year project (2016 to 2020) led to a 40% reduction in natural gas use while also securing industrial activity through the introduction of the best methods available (heat recovery, speed variation, etc.) and a search for financial optimization (search for a rapid ROI).



Main project's drivers for reducing the greenhouse gas emissions	Reduction levers	Details on the aspects of the project
	<input checked="" type="checkbox"/> Energy and resource efficiency (including behaviour)	Limit the waste of energy: size and adjust to exact needs
	<input checked="" type="checkbox"/> Energy Decarbonisation	Heat recovery to limit gas use
	<input checked="" type="checkbox"/> Energy efficiency improvements	Improve the energy efficiency of the systems: best methods available
	<input type="checkbox"/> Improving efficiency in non-energy resources	
	<input type="checkbox"/> Emission absorption: creation of carbon sinks, negative emissions (BECCS, CCU/S, ...)	
	<input type="checkbox"/> Reduction of other greenhouse gases emission	

Emission scope(s) on which the project has a significant impact and quantification of GHG emission reductions per emission scope	Aspects of the project contributing to the reduction of emissions by emission category		Quantification of associated GHG emissions by emission category
	Please follow the quantification methodology used in the Afep guidelines .		
	Reduction of the company's carbon dependency		
	Scope 1 <i>Direct emissions generated by the company's activity.</i>	Evolution of the natural gas bill correlated with the evolution of climate severity (EF: 0.169 kgCO ₂ / kWh)	Cumulative saving between 2012 and 2019: 3,376 tons of CO ₂
	Scope 2 <i>Indirect emissions associated with the company's electricity and heat consumption.</i>	Evolution of the electricity bill correlated with the evolution of activity (EF: 0.04 kgCO ₂ / kWh)	Cumulative saving between 2012 and 2019: 907 tons of CO ₂
	Scope 3 <i>Emissions induced (upstream or downstream) by the company's activities, products and/or services in its value chain.</i>	Evolution of the electricity bill correlated with the evolution of activity and evolution of the natural gas bill correlated with the evolution of climate severity (EF elec: 0.018 kgCO ₂ / kWh - EF gas: 0.0357 kgCO ₂ / kWh)	Cumulative saving between 2012 and 2019: 1,120 tons of CO ₂
Increase of carbon sinks			
Emissions Absorption <i>Carbon sinks creation, (BECCS, CCU/S, ...)</i>			

	<p>GHG emissions avoided by the company at third parties</p> <table border="1"> <tr> <td> <p>Avoided Emissions Emissions avoided by the activities, products and/or services in charge of the project, or by the financing of emission reduction projects.</p> </td> <td></td> <td></td> </tr> </table> <p>Clarification on the calculation or other remarks: 50% improvement in the site's energy performance between 2012 and 2019. Cumulative gain of 2.6 million euros</p>	<p>Avoided Emissions Emissions avoided by the activities, products and/or services in charge of the project, or by the financing of emission reduction projects.</p>		
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Modality of verification of the quantification.	<p>Calculation standard used (ADEME base, GHG protocol, etc.): Monitoring through the implementation of energy performance indicators according to the IPMVP protocol (correlation of energy use with influencing factors).</p> <p>Verification of the calculation (internal or external): Internal verification by two IPMVP-certified people</p>			
Other environmental and social benefits of the project	<p>This Green Days initiative offers several benefits to the project owner:</p> <ul style="list-style-type: none"> - Manage the site's energy bill, limit the impact of energy-cost increases, - Ensure continuity of service and comfort while improving energy efficiency and safety <p>Integrate maintenance and optimization constraints of equipment into projects</p>			
Project maturity level	<p> <input type="checkbox"/> Prototype laboratory test (TRL 7) <input type="checkbox"/> Real life testing (TRL 7-8) <input type="checkbox"/> Pre-commercial prototype (TRL 9) <input type="checkbox"/> Small-scale implementation <input checked="" type="checkbox"/> Medium to large scale implementation </p> <p>Remarks: The initiative is based on the standard, ISO 50001 - Energy Management</p>			
Capacity and conditions of the project reproducibility, with associated climate impact mitigation potential	<p>The methods of all of these projects can be reproduced: size to exact needs, implement the best methods available, use the energy sources available. These projects also desensitize a site to market prices.</p> <p>Several factors play a role in the initiative's success:</p> <ul style="list-style-type: none"> • Working closely with operational staff to reduce energy use of the processes and create complementary improvement loops on the infrastructure • Implementation of energy coordinators in the various sectors to manage the action plans • Identifying sources of funding: Ademe's request for proposals, various grants (energy-saving certificates (CEE), ADEME) 			
Amount of investment made (in €)	<ul style="list-style-type: none"> • Investment since 2012: 3.8 million euros, including 1.6 million of mandatory work connected to business continuity • Grants received: 1.18 million euros 			
Economic profitability of the project (ROI)	<p> <input type="checkbox"/> ST (0-3 years) <input checked="" type="checkbox"/> MT (4-10 years) <input type="checkbox"/> LT (> 10 years) </p>			
Engaged partnerships	<p>As all of these forms of technology are very mature, these projects are carried out as part of works launched through calls for tenders. The projects are carried out with local small and medium enterprises and/or large national groups.</p> <p>Awareness-raising actions are performed in-house with the support of Ademe through local "Energy info" appointments.</p>			
Open comments from the project owner	<p>When confronted by an infrastructure modification or replacement, a company has three choices:</p> <ul style="list-style-type: none"> - Not do anything and wait for a breakdown - Replace with the same infrastructure: almost no gain - Innovate: invest to find the best methods available - Safran opted for the latter. 			
More about the project				
Contact the company carrying the project	amandine.maugarnis@safrangroup.com			
Project URL links	/			

Illustrations of the project



Evolution of energy performance
(Electricity and gas on the basis of hours worked and heating degree-days)

