



LIFE CLEANAIRMM - Piloting clean power supply devices in construction and urban green care to reduce emissions from portable machines

LIFE18 ENV/DE/000054

[Project description](#) [Environmental issues](#) [Beneficiaries](#) [Administrative data](#)
[Read more](#)

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Project description:

Background

Non-road mobile machinery (NRMM) such as construction machinery, hand-held tools and generators contribute significantly to urban pollution particulate matter (PM) and nitrogen oxides (NOx) and greenhouse gas emissions because of low emission standards. While the EU regulation on internal combustion engines for non-road mobile machinery does cover NRMM, not all engine emission types are included. In addition, the regulations enforcement provides for long transition periods.

EU and US environmental authorities (European Environmental Agency and Environmental Protection Agency) determine that, despite their low numbers compared to cars, NRMM are responsible for as much as 15%-20% of total NOX, 5% of total PM2.5 and significant amounts of CO and hydrocarbon emissions. But electric power supply is urgently needed on construction sites and other outdoor or underground workplaces, or in remote areas where power is otherwise hard to come by. A (local) zero-emission battery-driven power supply can provide this power and meet to a significant but realistic market.

Objectives

The overall aim of the project is to achieve significant local emission reductions from construction and green care in urban areas and to replace fuel driven generators (diesel/petrol) used to supply NRMM which are within the non-regulated machine class (The project will help implement the EU Regulation 2016/1628 on requirements relating to gaseous and particulate pollutant emission limits and type-approval for internal combustion engines for non-road mobile machinery. It will also support the Occupational Safety and Health Framework Directive 89/391/EEC.

Results

Expected results:

- production of 100 BPSS after launching a small production series of battery packs (20 per system with a total of 2 000);
- train 150 users and provide documentation and other training material;
- gain certifications for BPSS (CE, electric, battery test, transport, electromagnetic compliance/EMC);
- field testing on various types of NRMM, with a net operating time of around 275 working days/275 load cycles each);
- 100% reduction in local emissions from power supplies on sites used by pilot users and decreased worker health risks;
- a new green procurement model developed together with city of Stuttgart;
- a new leasing model for electric NRMM developed together with project partner Husqvarna;
- increased mass series production together with the original equipment manufacturer (OEM);
- replication of the project results by substituting 30 000 fuel-driven generators in the market by the end of the project; and
- contribution to standardisation/regulation activities for

[Top](#)

Environmental issues addressed:

Themes

Air & Noise - Air pollutants

Environmental management - Green procurement

Keywords

air pollution, energy supply, pollutant elimination, alternative technology, clean technology, atmospheric pollution, environmentally friendly product, urban planning, emission reduction

Natura 2000 sites

Not applicable

[Top](#)

Beneficiaries:

Coordinator	instagrid GmbH
Partners	Husqvarna(Husqvarna AB), Sweden HLNUG(Hessisches Landesamt für Naturschutz, Umwelt und Geologie), Germany

[Top](#)

Administrative data:

Project reference	LIFE18 ENV/DE/000054
Duration	01-JUL-2019 to 30-JUN -2022
Total budget	1,771,573.00 €
EU contribution	899,013.00 €
Project location	

[Top](#)

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Project web site [Project's website](#)

[Top](#)

[Project description](#) [Environmental issues](#) [Beneficiaries](#) [Administrative data](#)
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