

MAHLE Green Power Requirements

Guidance for the decarbonization of supply chain

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1. Introduction

Sustainability is becoming an essential condition for automotive business. Laws, regulations, and customer requirements have set clear targets for the industry. MAHLE takes responsibility for its own supply chain and therefore expects all suppliers to comply fully with our sustainability requirements, from the production of goods to their impact on people and the environment.

This guidance defines and describes the requirements of the MAHLE Group for the use of green power (renewable energy) of suppliers in the whole supply chain from the production of raw material up to semi-finished products, assemblies and production parts.

2. Objectives

MAHLE is committed to climate protection and supporting the achievement of the EU climate target. To achieve this goal, MAHLE has implemented the reduction of the product carbon footprint along the supply chain in its internal climate strategy. Therefore, suppliers of MAHLE products should use renewable energy in the production of goods for MAHLE.

To support this strategy, the product carbon footprint values will influence future project nominations. The actual project-specific framework conditions will be agreed in the form of a supplier agreement.

3. Green power

3.1. Definition

Renewable/ sustainable energy sources are referred to as such when they are practically inexhaustible or rapidly renewable within the human time horizon for sustainable energy supply. They differ from fossil energy sources, which are finite or like fossil energy sources, regenerate over millions of years. Green power is generated exclusively from renewable energy sources, is 100% nuclear waste free and 100% CO₂e neutral. The use of renewable energies always requires the consideration of the effect of the intervention in nature for the benefit of land consumption, biodiversity, deforestation or similar.

3.2. Accepted energy sources

Electricity from renewable sources shall be used to produce material and components in our supply chain. The following energy sources are recognized as renewable energy sources:

3.2.1. Solar energy

Solar energy is the energy derived from the sun's rays using the photovoltaic effect.

3.2.2. Wind energy

Wind energy refers to the use of kinetic energy of the wind to generate electricity.

3.2.3. Hydropower/ sea energy

Hydropower is the use of kinetic energy to generate electricity.

3.2.4. Geothermal energy

Geothermal energy is the use of heat from the earth's interior to generate energy.

3.2.5. Bio energy

Bioenergy refers to the use of organic materials such as biomass, wood or agricultural products to produce electricity. The production of bioenergy from crops such as maize must not compete with food production and the land used must not be developed by draining peat bog or deforestation.

3.3. Accepted proofs

There are several ways to track and quantify the use of green energy to reduce a product's carbon footprint. The choice of approach depends on the purchasing option, and the methods of verification depend on the energy market landscape in the country of production.

In addition to self-generation, verification of the type and source of green energy typically plays a key role. This verification is often facilitated by Energy Attribute Certificates (EACs), which are electronic certificates that are typically tradable and transferable. Measured in MWh energy units.

The specific systems used may vary depending on factors such as the energy market, country and global region.

The following systems can be found and are accepted as a proof of green Energy:

- GoO (Guarantees of Origin): implemented in the European Union's Energy Certificate System (EECS). It traces the source of energy back to the power plant and confirms the origin of renewable energy. A certificate is issued for each MWh of renewable electricity generated and must be presented to prove its origin.
- RECS (Renewable Energy Certificate System): System mainly used in USA, Japan and Canada. It issues a certificate for each MWh of electricity generated from renewable energy sources. All issued certificates must be presented to prove the origin of the energy used.
- I-RECS (International Renewable Energy Certificate System): credible and standardized proof of green energy usage based on specific criteria (www.irecstandard.org).
Further Information can be found here: [International RECs \(I-RECs\) \(ecohz.com\)](http://International RECs (I-RECs) (ecohz.com))

There are also country-specific certification systems. Other certification systems can be discussed on an individual basis between the supplier and MAHLE to evaluate, whether they will be accepted as green energy validation. If no certification system is available, MAHLE can validate the green energy through an audit. However, an audit will only be conducted in rare circumstances.

In general, the above-mentioned certification systems document the origin and type of energy. EACs can only be used once from only one legal entity and avoids the repeated use of them.

3.4. Procurement

3.4.1. Purchase of green energy from a green power supply contract

A company signs a contract for the supply with green power. The supplier ensures the green energy supply by the procurement and retirement of EACs for the supplied volumes and in favor of the offered product.

To ensure the validity of the green power product it should be certified by either independent third party or government agencies.

Validation:

The supplier can prove its green power supply by providing the green power supply contract and a corresponding electricity bill with electricity disclosure.

In some markets, the supplier can prove the green power with retirements statements of the used EACs in the cancellation report.

3.4.2. Green power purchase agreements (PPAs)

Long-term agreements for the supply of green energy between a power provider and a company. Either Power Purchase Agreements or Virtual Power Purchase Agreements are valid with the corresponding cancellation reports.

3.4.3. Own energy generation

If the supplier generates its own amount of green energy, it can only be claimed as green energy if the generated electricity is fully consumed by the company. This means, that:

- It does not receive subsidies
- It is not fed into the power grid
- It does not receive feed-in tariffs

Validation: Declaration of self-consumption and proof of generation. Validation via meter readings. No double counting for different customers.

3.4.4. Special note for currently non-liberalized markets

Special note for currently non-liberalized markets

In special cases where none or not all of the validation options are available, individual case assessments will be discussed between the supplier and MAHLE.

Validation: Individual case assessment

4. Terms & definitions

EAC – Energy Attribute Certificate

An Energy Attribute Certificate is the official documentation to verify the environmental attributes and source of energy generation, particularly in the context of renewable energy. EACs provide transparency and proof that a certain amount of energy has been produced from renewable sources. Each EAC represents proof of 1MWh of renewable energy produced.

EECS – European Union's Energy Certificate System

The European Union's Energy Certificate System was introduced by the EU to collect and disseminate the energy efficiency of buildings and products. It consists of various certification and labeling procedures that make it easier to identify the energy efficiency of buildings or products.

PPAs - Power Purchase Agreements

Long-term power purchase agreements signed bilaterally between a power producer and a power consumer.

Product carbon footprint

Balances the total greenhouse gas emissions generated by a product during its life cycle. All process stages, from development to use, are taken into account. Depending on the selected system

limits, only a partial area is mapped. For example, In the B2B sector, the supplier processes and internal production processes up to delivery are considered.

5. Document change history

Version No.	Date of changes	By	Reason/ subject	
1.0	25.06.2024	Hardegger/ Schreiner	New document	

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