

Sustainability Concept for Peat Finland

Principles of responsible peat production

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PREFACE

In spring 2019, Vapo Group set up a project to develop a concept for the sustainability of the peat it produces in Finland. The Sustainability Concept for peat aims to describe the sustainability of peat as a raw material and summarises the legislative and operative background of the peat production. The Concept has its basis in Vapo Group's management system, and it strives for transparency in the peat raw material production and in the life cycle of the peat production area. The Concept is intended to facilitate sales and marketing especially of horticultural peat and peat-based high value-added products.

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The development of this Concept has been steered by a steering group consisting of Mia Suominen, Mika Timonen, Jorma Kautto, Harri Kyllönen, Päivi Martikainen and Petri Järvinen from Vapo Group. The steering group commented on the Concept, after which comments were taken into account where appropriate. Other employees from Vapo Group also commented on the Concept. The finished Concept was first approved by the steering group and after that, Vapo Group's Sustainability steering group gave its approval. Final approval was given by Vapo Group's Management team.

SUMMARY

Peat is a unique, organic wetland biomass formed as a result of natural processes in peatland ecosystems. Utilisation of peat has significant positive effects on fulfilling people's basic needs and in creating well-being. For instance, peat promotes healthy local food production and peat-based high value-added products purify habitats and enhance access to clean drinking water. The Sustainability Concept for peat describes the legislative and operational background of responsibly produced peat by Vapo Group in Finland.

The operative peat production in Vapo Group in Finland is managed with a certified management system including ISO 14001 environmental management system and ISO 9001 quality management system. In the management system, for instance environmental responsibilities and competencies are determined to manage environmental issues responsibly. We are committed to continuously improve our operations, environmental impacts and the safety and well-being of our employees. The management system is audited regularly by a third party.

Peat production is strictly regulated by environmental legislation in Finland. All Vapo Group's peat production areas in Finland are operated under environmental permits issued by the Finnish permit authorities. Also, guidelines published by the Finnish Ministry of the Environment are followed.

The key purpose of the permit requirements is to prevent spoiling of nature and water sources, to reduce negative impacts on the environment and support biodiversity and sustainable use of natural resources. The permit includes regulations of the extent of peat production and how the production should progress. Vapo Group constructs all its peat production areas with the best available water treatment technique and aims to minimise the environmental impacts and risks in all of its operations.

The production area preparation and peat production are performed by contractors who shall follow the provisions of the environmental permit and Vapo Group's Supplier Code of Conduct. Vapo Group requires a valid Occupational safety card from all its contractors and offers environmental safety card trainings for main contractors. Regular monitoring and self-control by Vapo Group and inspections by the Authority ensure that the permit requirements are fulfilled and reported.

Peat production typically lasts 20-30 years in an area. After production, areas are suitable for many types of next land-use. The most common forms of next land-use are afforestation, agriculture and wetland creation or re-wetting. Vapo Group is committed to transfer the areas to the next land-use within two years after the end of production. Then the area quickly returns into a carbon accumulating ecosystem as the forest starts to grow or new peat begins to form on re-wetted area. Next land-use also increases biodiversity in the area.

Vapo Group aims for transparency and openness in all its activities. Vapo Group invites stakeholders to discuss about the planned production before a permit application is initiated so that the concerns of stakeholders are taken into account. During peat production, annual open-door events and student visits are organised to our peat production areas. Vapo Group reports its economic, environmental and social impacts in a sustainability report which is based on the Global Reporting Initiative framework.

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1 OVERVIEW OF THE SUSTAINABILITY CONCEPT FOR PEAT, FINLAND

1.1 Purpose and scope

Peat is a unique organic wetland biomass that is formed all the time as vegetation decomposes in peatland ecosystems. Peat is a multifunctional raw material and has multipurpose uses to promote sustainable everyday living and to create well-being in people's lives. Peat promotes healthy local food production and peat-based high value-added products for instance purify habitats and enhance access to clean drinking water. The purpose of this Concept is to prove the sustainability of Finnish peat used, for instance, in growing media, animal bedding and peat-based high value-added products.

This Concept describes the legislative and operational background of peat responsibly produced by Vapo Group. The scope of this Concept is all the peat produced in Finland. Principles and practices of producing peat are presented in sections that are divided into administrative issues and environmental and social responsibility. The operational framework is based on the current legislation and the company's management system.

1.2 Sustainability in Vapo Group

Guided by the sustainable development goals of the United Nations for 2030, we want sustainability to be present in all our activities. Sustainability is in the core of Vapo Group's strategy and purpose "Sustainable Everyday Living".¹ Our sustainability aim is to make Vapo Group a net positive company by considering the impact of our operations, products and services on environment, health, society and knowledge.

Responsibility is the foundation for Vapo Group's operations.² Vapo Group aims to respond to future needs by creating solutions for sustainable everyday living. We use natural raw materials to produce growing media, bedding materials and new peat-based innovations that promote sustainable development. We also provide peat for local heat and steam production.

Vapo Group's big sustainability objectives, including environmental strategy targets, were approved by Vapo Group's Board of Directors in June 2019. The long-term goals will be determined in detail in the beginning of 2020. Our sustainability objectives focus on two areas:

- a) We take care of the environment and
- b) We take care of the well-being of our employees.

Sustainability implementation annual plans are approved and followed up by top management, and progress is reported to the Vapo Group Board of Directors.



Figure 1. Vapo Group big sustainability objectives and long-term goals

The Sustainability Concept for Peat is a part of Vapo Group Sustainability implementation and equates to other responsibility certificates which are held by the Vapo Group. These certificates, together with this Sustainability Concept for Peat, comprise the Vapo Group Sustainability Umbrella which has its basis in environmental and quality management standards. Product or business specific certificates, and the Sustainability Concept for Peat, complement responsible businesses with requirements specific to each certificate or concept. Vapo Group follows all EU and Finnish laws and regulations regarding peat production, water usage and production of peat-based products.

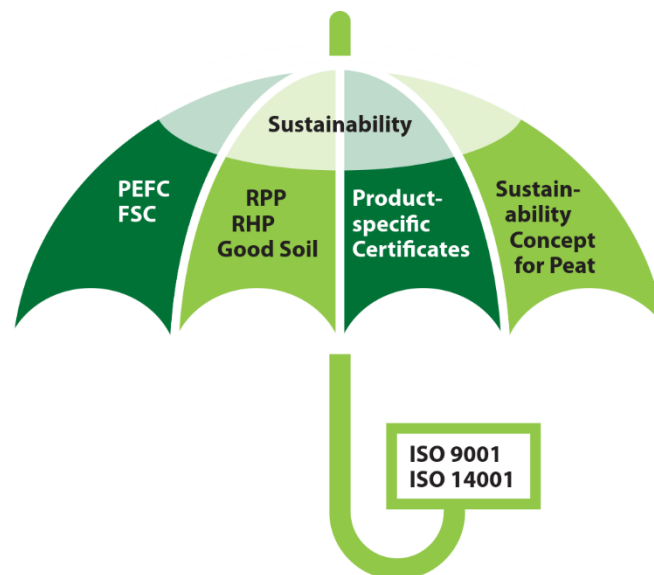


Figure 2. Vapo Group's Sustainability Umbrella

Product or business specific responsibility certificates promote ecologically, socially and financially sustainable businesses and raw material production. For instance, in our wood fuel businesses, PEFC and FSC certificates are applied. The **PEFC**³ (Programme for the Endorsement of Forest Certification) certificate is an international forest certification system which establishes a set of requirements for sustainable forest management. The **FSC**⁴ (Forest Stewardship Council) certificate

is also international forest certification to promote responsible forest management by setting standards for forest products.

In addition to this Sustainability Concept for peat, there are other certified systems for peat. The **RPP** (Responsibly produced peat)⁵ certificate is applied to horticultural peat and it ensures that the peat used as a constituent for growing media is from responsible resources. **RHP** (*Regeling HandelsPotgronden*)⁶ and **Good Soil**⁷ are quality marks for peat-based substrates and growing media. With the quality mark, customers and professionals can trust that the substrate is of good quality and safe.

Other suitable product specific certificates will be applied when applicable and this Sustainability Concept supports other certificates. In addition to responsibility certificates, Vapo Group follows the Strategy for Responsible Peatland Management published by the International Peatland Society.⁸

Vapo Group's environmental strategy for 2019-2022 is based on the Vapo Group strategy and takes into account megatrends, development in legislation and expectations of our customers and other stakeholders.⁹ Four environmental strategy targets are:

1. Aiming towards a carbon neutral society
2. Supporting biodiversity and using natural resources sustainably
3. Minimising harmful impacts on water sources and enhancing water-use efficiency
4. Boosting circular economy by increased material efficiency, efficient recycling and utilising recycled materials

Environmental strategy targets have objectives and indicators for 2019-2022, some even until 2025. Objectives and indicators are continuously planned, and progress monitored in detail.

For the first strategic target, we have set and will further set targets to decrease CO₂ emissions in logistics and peat production operations. Accordingly, we aim to decrease emissions from our work activities. As a big part of the Sustainability Concept, calculating the carbon footprint of raw materials and products is part of our actions towards a carbon neutral society.

The second strategic target covers the launch of this Sustainability Concept for Peat in Finland, Sweden and Estonia, and RPP responsibly produced peat certificate applications for horticultural peat. Other objectives are active and relevant next land-use of the peat production areas, producing peat only in already altered peatlands, and transferring mires with significant natural values for conservation purposes by selling or exchanging them to areas suitable for licensing to peat production.

The third strategic target means that we minimise the negative impacts on both watercourses and important drinking water sources by developing water treatment systems and increasing water use efficiency in all our operations and products. We also aim to minimise water impacts on surrounding nature. Furthermore, we develop peat-based, high quality products such as activated carbon to be used to clean harmful substances from gases and liquids.

The fourth strategic target takes into account the development of circular economy, focusing on reducing waste mainly in plastic reuse and recycling solutions as well as utilising ash as a fertiliser of soil in the afforestation of peat production areas.

Along with these strategic targets, we will calculate the net impacts of our products in the near future.

2 GOVERNANCE AND LEGALITY

2.1 Company

Vapo is an international company whose business operations promote professional growing and home gardening, the construction of attractive and pleasant living environments and the well-being of animals. We provide our customers local fuels and develop products for air and water purification.¹⁰

Vapo Group consist of 10 companies operating in 5 countries. Vapo Oy is the leading legal company in the Vapo Group. Vapo Oy is owned by the Finnish State (50.1%) and Suomen Energiavarat Oy (49.9%). Vapo Oy (Finland), Tootsi Turvas AS (Estonia) and Neova AB (Sweden) are the companies that manage the peat production operations. Vapo Oy has been producing peat in Finland since the 1940s. Read more about Corporate Governance on [Corporate Governance Statement](#).¹¹

Vapo Group's operations consist of the **Energy** division, **Grow & Care** division, **New Businesses** division, **Supply Chain Management** function and **Group Services** function. The Energy division specializes in the supply of local fuels, including production of biofuels. The Grow & Care division specialises in growing media, recycling, the wholesale of peat raw material and the production and sale of bedding peat. The Supply Chain Management function is responsible for the peat and wood raw material supply, peat production, logistics, shared procurement and the management of operational excellence and sustainability (including environmental, quality and occupational safety) for each of the Group's divisions and functions. The Group Services function consists of HR, Finance & Business Control, ICT, Communications & Public Relations and Legal Services & Internal Audit for the entire Group.

Vapo Group's New Business division develops and creates novel solutions based on refining peat and other natural materials into entirely new, high value-added products. The new high value-added businesses are based on peat utilisation for activated carbon and other products to purify contaminated environments and to create well-being for people and nature.

2.2 Governance

Vapo Group's governance bodies

The highest decision-making power in Vapo Group is exercised by the shareholders at the General Meeting. The management of the Group is the responsibility of the Board of Directors appointed by the General Meeting and the CEO appointed by the Board of Directors. The work of the Board of Directors and the CEO is supervised by the Supervisory Board appointed by the General Meeting. The Group Management Team and other senior management assist the CEO in his duties. The Board of Directors decides on the Group's governance systems and ensures that the company observes good corporate governance.

Subsidiaries

The operational management of Vapo Group's divisions and functions is the responsibility of the director of each division and function. The directors report to Vapo Oy's CEO. The management of subsidiaries also takes place through Vapo Group's divisions and business functions.

Code of Conduct

The Vapo Group Board of Directors has approved the [Code of Conduct](#)¹² the purpose of which is to guide us all in making the correct everyday decisions expected from a good corporate citizen, and

it sets out the minimum standards required in all our operations. The Code of Conduct concerns every individual who is employed by Vapo Group. Ethical behaviour is the basis for our everyday way of working, taking into account not only national and international laws and regulations but also the expectations of customers, our own personnel and other stakeholders as well as the Vapo Group values. We promote fair business practices and expect the same from our business partners, contractors, subcontractors, suppliers, sub-suppliers, distributors and any other cooperation partners.

The Code of Conduct contains guidelines for responsibility and compliance with laws and regulations, integrity, human and labour rights, safety, environmental impacts and transparency.

For example, we recognise the environmental impact of our operations and aim to minimise the adverse effects of our operations on air, water, land, soil and biodiversity. We ensure that our employees have appropriate know-how and experience in relation to environmental issues, as well as resources to enable them effectively to meet their responsibilities. We proactively work to prevent environmental emergencies.

We respect and observe international human and labour rights, including the UN Universal Declaration on Human Rights and the Fundamental Conventions of the International Labor Organization. We commit to fair and equal treatment of our personnel and shall not tolerate discrimination on the basis of race, national or ethnic origin, citizenship, skin colour, language, gender, age, family conditions, sexual orientation, health, religion, social opinions, political or professional activism, or any other comparable reason. We shall not tolerate any kind of harassment or bullying at work and we do not allow forced or child labour in our operations or as committed by any of our Partners.

All our suppliers shall be treated equally, and we promote fair and open tendering processes. In addition to pure economic and quality criteria, we consider corporate responsibility aspects including environmental and safety matters when deciding on suppliers. All our suppliers shall adhere to the Vapo Group Supplier Code of Conduct.

Supplier Code of Conduct

The purpose of the Supplier Code of Conduct¹³ is to guide Vapo Group's suppliers to comply with the principles outlined in Vapo Group's Code of Conduct and Corporate Responsibility policy. The Supplier Code of Conduct concerns all Vapo Group's suppliers and their employees, subsidiaries and ventures controlled by these suppliers. This Supplier Code of Conduct cannot be circumvented by using subcontractors or other partners.

Vapo Group encourages suppliers to develop their own corporate responsibility and compliance programmes. It is important for Vapo Group to build and develop its business sustainably in the long term and we require that also from our suppliers. Ethical behaviour is the basis for our everyday way of working, taking into account not only national and international laws and regulations but also the expectations of customers and other stakeholders.

Vapo Group Corporate Responsibility policy

[Vapo Group Corporate Responsibility policy](#)² describes the operating rules in health & safety, environmental and quality matters to follow in all our operations. The policy is approved by the Vapo Group's Board of Directors.

The main principles of the policy, to which the management and the whole personnel are committed, are:

- Health and safety is our first priority.
- We favour sustainable solutions in our product development.
- We minimise the harmful environmental impacts of our operations.

- Our products correspond to quality specifications agreed together with our customers.
- We are committed to constantly improving our operations.

2.3 Management system

Vapo Group in Finland has ISO certified management systems including an ISO 14001 environmental management system and an ISO 9001 quality management system, and its environmental and quality practices are managed, guided and controlled on Vapo Group level, harmonized across operative countries.

The management system is a compilation of agreed governance, policies, operating procedures and instructions. It supports the management of the company and helps us achieve our goals and objectives. We are committed to continually improve our operations, reduce environmental impacts and improve the safety and well-being of our employees. In the management system, environmental responsibilities and competencies are determined in order to manage environmental issues responsibly.



Figure 3. Vapo Group management system hierarchy.

The Vapo group-level management system has a clear hierarchy and is formed in levels. It is documented in IMS tool, where our group-level governance and shared policies, operational processes and instructions are described.

The first level defines our Corporate Governance, Code of Conduct, Policies and Principles. Corporate governance defines how our company is governed as well as the interaction between our company's managerial bodies, its owners and other stakeholders. Policies are formalised mandatory statements, rules and regulations. Principles describe how we operate under specific focus area, and following principles is also mandatory.

The second level defines our Corporate Strategy Objectives and Goals, supported by Business and Function specific strategies. Strategy execution is done through Must Wins programmes which have a long-term focus (3-5 years). Annual plans define our targets and priority actions with a short-term focus (1 year). Performance management is done monthly by means of operative reporting, continuous improvement cycle and personnel performance management.

The third level defines our Organizational Structure and Business Governance, which describe how we are organised and what our decision-making process is, including meeting structure and approval grids. The Business Process model describes how we run our businesses.

These three levels are the basis for a certified management system which helps us to continuously improve and to direct our activities to meet customer and regulatory requirements.

2.4 National legislation of peat production in Finland

In Finland, peat production is strictly regulated and subjected to environmental permitting. The environmental permit contains regulation on reduction of environmental impacts and monitoring of the impacts. Peat production can be located only on already altered, drained peatlands or on areas that have lost their natural values. These guidelines prevent the loss of biodiversity and habitats, reduce negative impacts on waterways and nature and mitigate harm to humans.

Environmental permit process

All Vapo Oy peat operations takes place in production areas under environmental permits issued by Finland's state regional administrative agency or the higher courts. The permit process starts in the agency, but if the applicant or stakeholder is discontented with the agency's permit decision, one can appeal to the Administrative court, and if still discontented, appeal further to the Supreme Administrative Court.

Key regulations

Peat production is strictly regulated by environmental legislation in Finland. The most essential regulations are Environmental Protection Act and Decree (527/2014 and 713/2014), Act on Environmental impact assessment (468/1994), Decree on Environmental Impact Assessment Procedure (713/2006), Nature Conservation Act and Decree (1096/1996 and 160/1997), Adjoining properties Act (26/1920), Land Use and Building Act and Decree (132/1999 and 895/1999), Water Act (587/2011) and Waste Act (646/2011).

Environmental protection regulations

The purpose of the Environmental Protection Act and Decree (527/2014 and 713/2014) is to prevent spoiling of nature, reduce negative impacts and ensure that the environment is considered in decision making. The Environmental Protection Act defines the course of the permitting process, the information that must be provided by the applicant to the permitting authority, and the content of the permit decision. The permit includes regulations on the extent and how peat production must be arranged, what kind of structures must be built in the area, how the drainage water must be treated, how effective the purification process must be/and or how pure the water must be when leaving the area, how often the structures must be cleaned, whether there any limitations based on noise or dust impacts, how the monitoring is arranged and whether the operator must pay fees to the fisheries authority.

The Environmental Protection Act also defines where the peat production area can be sited: nationally or regionally significant natural values shall not be at risk of deterioration. Peat production should be located in areas that are significantly altered by trenching and which have thus lost their natural state. It also obligates the operator to use best available techniques (BAT) and best environmental practices (BEP). Water treatment structures in all Vapo Oy operated production areas are of best available technique. Most importantly, the operator must be aware of the impacts of its actions on the environment.

The Environmental Protection Act also protects some animal species, nesting trees and plants, and some species are protected as threatened, or under strict protection if at risk of extinction. Destroying or deteriorating the breeding sites or resting sites of species that are under strict protection or in the Habitats Directive Annex IV(a) is prohibited. In some cases, The Centre for Economic Development, Transport and Environment can grant derogations from the prohibitions. Before peat production, natural values of the area must be censused properly, and the results are added to the permit application. Usually, the application includes censuses of protected and threatened habitats, Forest Act habitats, Water Act habitats, threatened plant and bird species, The Birds Directive Annex 1 species, species of international responsibility, habitats directive Annex IV(a) species and depending on the site properties, some other specific species groups censuses could be included. All in all, the risks of peat production to nature are always assessed beforehand and the production sites are not located in areas having great conservation value to species or habitats.

The Environmental impact assessment Decree and Act (252/2017 and 277/2017) concerns production areas of 150 hectares, or more. The environmental impact assessment (EIA) compares the impacts of alternative production plans against a situation with no production. Alternative plans can consider different surface areas, water treatment methods, storage areas or transportation routes. The purpose is to find the best option, taking account of all environmental aspects, before the environmental permit is granted. The process gives the general public and stakeholders a possibility to comment on the different options and it ceases when the coordinating authority, Center for Economic Development, Transport and the Environment, gives its' statement on the assessment reports' adequacy, based on public opinions and statements from the other authorities. The statement must be considered in the environmental permit decision, if the operator decides to apply for one.

Nature conservation regulations

The Nature Conservation Act and Decree (1096/1996 and 160/1997) supports biodiversity, the conservation of nature's scenic values and beauty and the sustainable use of natural resources, amongst other values. An environmental permit cannot be granted, if the project threatens the favourable conservation status of species or habitats. It prevents the founding of peat production areas in areas that are protected in the Act. In some areas, actions which jeopardise the purpose of the conservation are prohibited (restriction on action). For example, some peatlands are part of the Mire conservation programme and thus excluded from peat production. In government-owned and private protection areas, most actions that alter the natural surroundings are also prohibited. Some habitats, like common alder woods that occur in peatlands, are protected by law. The Forest Act (1093/1996) restricts actions in some small-scale woody habitats (habitats of special importance) that can occur in peatlands.

Water protection regulations

Normally, peat production does not require a permit based on the Water Act (587/2011), but if the actions result, for example, in risk of flooding, changes to drainage basin, decreased water quality or other hinderances on the use of water, permission must be sought. If the drainage water from the peat production area must be conducted to a ditch of another party, and the loss of benefit is only caused to private interests, a permit can be applied for, if the party is not willing to give consent. Water law protects some aquatic habitat types, of which springs, streamlets and small ponds (under 1 hectare, outside Lapland) are common habitats near or in peatlands. Exception to the prohibition can be granted in some cases by the permit authority.

The Government Decree on Water Resources Management (1949/2006) guides the regional water management plans. These plans present the action that must be taken to improve water quality regionally. Because peat production is highly regulated by national legislation, most of the water protection actions presented in the plans are already in use in peat production areas.

Regulations concerning properties and land-use

The Adjoining properties act (26/1920) controls the impacts of peat production from a landowner point-of-view. It forbids the use of property in any way that causes unreasonable harm to the neighbouring property owner. In terms of peat production, this sets limits on impacts caused by effluents, noise, dirt, dust, odour or the like. Nowadays, permits for new production areas are granted only if their planned area locates 500 meters or more from settlement, to reduce harm caused by noise from the machines and the peat dust caused by different production phases.

The Land Use and Building Act and Decree (132/1999 and 895/1999) steers land-use via regional planning. Regional plans can point out areas suitable for peat production, or reservations that exclude peat production. The Act also decrees national land-use guidelines. These guidelines exceed regional boundaries and may concern, for example, nationally significant impact on ecological sustainability or environmental hazards.

Other relevant regulations

In all actions, Vapo Group complies with the Waste Act (646/2011), minimising the amount of waste produced, and the impacts of waste on health and the environment. Waste management is taken care of in all peat production areas.

There are several other acts and decrees that are applied to peat production:

- Act on the Organization of River Basin Management and the Marine Strategy (1299/2004)
- Environmental Damage Insurance Act (81/1998) and Decree (47/2015)
- Act on Compensation for Environmental Damage (737/1994)
- Act on the Safe Handling and Storage of Dangerous Chemicals and Explosives (390/2005)
- Government Decree on The Assessment of Soil Contamination and Remediation Needs (214/2007)
- Government Decision on Guideline Values for Noise Levels (993/1992)
- Land extraction Act (555/1981)
- Antiquities Act (295/1963)

Programmes, resolutions, strategies

Some national programmes have an impact on peat production in Finland. A government resolution on the sustainable and responsible use and conservation of mires and peatlands was given in 2012 and it steers the actions in peatlands to areas that are altered, and which have thus lost their natural state. It also promotes the conservation of mires and water protection in actions located in peatlands. The National Energy and Climate Strategy outlines the actions that must be taken to be able to achieve the government and EU targets for 2030 in the reduction of greenhouse gas emission.¹⁴ Thus, it also affects the future of using peat for energy production.

Soft law

In addition to legislation, the guidelines published by the Ministry of the Environment are followed. Guidelines for environmental protection in peat mining is a handbook representing general guidelines for all peat production operations.¹⁵ The Guidelines for the monitoring of peat production handbook presents ways to monitor discharge and the impact of production on the environment.¹⁶ There

is also a handbook on what nature censuses should be carried out in the planned peat production area before applying for a permit.¹⁷

2.5 External and internal inspections and audits

2.5.1 Inspections of supervisory authority

The Regional Center for Economic Development, Transport and the Environment (ELY-keskus) supervises that the operator (=peat producer) acts in compliance with the environmental permit. Also, the supervisory authority performs fixed-term inspections of peat production areas. The inspections are arranged together with the operator and the intervals of these inspections depend on the risk classification of the authority. Usually peat production areas are inspected once every three years. The operator and authority go through the permit, last inspections' memo, notifications and complaints from the public, usage monitoring notes on logbook, disturbance notices and other monitoring results. After the necessary documents are inspected, the operator and authority inspect the structures of the production area in situ. The authority prepares a memo of the inspection's results and gives orders if there are any needs for improvement.

The authority performs inspections also when the constructions of new water treatment structures are completed. It can also conduct an inspection if there are complaints about the actions in or near the peat production area, or if there is a reason to believe that the operator does not act in compliance with the environmental permit.

2.5.2 Audit of the ISO standard

In ISO audits we will verify that Vapo Group management system is in compliance with the relevant ISO 9001 and 14001 standards, and that our operations are managed according to Vapo Group practises.

We conduct three main types of ISO 9001 and 14001 audits:

1. First Party Audit – also known as an **internal audit**. These audits are conducted internally by our own staff that are trained to carry out internal audits.
2. Second Party Audit – also known as a **supplier audit**. These audits are usually carried out by our own lead auditors and are designed to ensure that the companies that supply products or services to Vapo Group are acting in accordance with our company principles.
3. Third Party Audit – also known as a **certification audit**. These audits are always carried out by a Certification Body auditor which is Det Norske Veritas (DNV). These audits are for the purpose of gaining and maintaining certification to ISO 9001 and 14001.

Vapo Group conducts approximately 20-25 internal audits per year and approximately 15 external ISO audits per year in Finland. Our own lead auditors are educated by an external instructor to ensure the high quality of the audits. Qualified lead auditors carry out the internal and supplier audits.

2.5.3 Audits specific to peat production areas

Vapo Group peat production areas have RHP certificates⁵ (quality standards and requirements for trade substrates) and RPP (Responsibly Produced Peat⁴) certificates, which are awarded to a specific peat bog area. RHP (Regeling Handels Potgronden) quality mark gives a thorough quality judgement on the certified substrates and the RPP principles and criteria ensure responsible peatland management during and after peat production.

Vapo Group follows all local and EU requirements and laws that are eligible for peat production. RPP requirements are stricter than local legislation and require additional environmental monitoring.

Both RHP and RPP require regular third-party audits.

2.5.4 Customer audit

Vapo Group's customers also audit our operations regularly. These audits focus on processes, product quality, safety and environmental issues. Customer audits are an important way to make our operations more open and transparent to the customers and other stakeholders.

2.5.5 Deviations and corrective actions

For all identified deviations and observations during the audits we will take needed corrective actions and report them to the auditor. The process for corrective actions is described in the IMS-management system. Corrective actions are decided by the business units and are documented in the observation system. The Vapo Group quality team supports and follows up the corrective action implementation. Corrective actions will be done at all locations, not just in the site where the issue was found. Deviations and observations are reported to management. The most significant observations are reported to Vapo Group's Management Team and the Audit Committee.¹¹ Our efficient process of handling deviations and observations is part of our continuous improvement process.

3 ENVIRONMENTAL RESPONSIBILITY

3.1 Finnish peatlands

Finland is a land of mires. Of Finland's total land area, which is 33.84 million hectares, originally over 10 million hectares were covered by mires and peatlands.¹⁸ Nowadays, there are approximately 8.76 million hectares of mires and peatlands, which is more than 25% of the total land area. Slightly more than half are ditched, 4.67 million hectares. The largest single use of peatlands is forestry, which covers over a half of the existing mire area, about 4.65 million hectares. A third of the peatlands are still untouched and 1.28 million hectares of mires is under conservation, which is 15% of current mires and peatlands and about 12% of the original area.¹⁹ In the history of peat production, only 1.3 % (0.11 million hectares) of the current mire and peatland area has been utilised for peat production. Today the Finnish production area is 0.7%, of which Vapo Group's production area covers 0.4 % (0.036 million hectares) in Finland.

3.2 Production area selection

The Finnish Government's resolution on the sustainable and responsible use and conservation of mires and peatlands was adopted in 2012.²⁰ Above all, the resolution set out guidelines for the use of mires and peatlands, taking into account the needs of nature conservation and biodiversity.

The introduction of a natural state classification was of major importance for the coordination of peat production and nature conservation. In this classification, peatlands and mires are divided by, among other things, their drainage and water balance in classes 0-5 where class 0 is an area that has completely lost its natural values and class 5 is pristine mire in its natural state.

The importance of natural state classification of mires in planning peat production has been emphasised by the fact that the location of production areas is regulated by national environmental

protection law. Accordingly, the location of peat production must not lead to significant national or regional degradation of natural values.

Vapo Group has outlined that it will not apply for environmental permits for mires in class 4 and 5 and will produce peat only in already altered peatlands which are mainly drained for forestry. Obviously, Vapo Group will not apply for environmental permits on areas that are already under official conservation programmes or already conserved.

3.3 Conservation of mires in Finland and Vapo Group

The main instrument for mire conservation in Finland has been national Mire conservation programmes from 1979 and 1981. Large and significant protected mires are also included in national parks and strict nature reserves. Mire conservation areas have mainly been included in the Finland's Natura 2000 network.

Already during the establishing of Finland's Natura 2000 network, Vapo Group exchanged about 3,000 hectares of mires with significant natural values for conservation purposes and got back areas suitable for peat production.

After the year 2010, Vapo Group has actively continued the exchange of mires which are in its ownership and which have significant natural values, or it attempts to sell them for conservation. During 2012 – 2019, Vapo Group has sold or exchanged areas for conservation of totalling 4,364 hectares from all over Finland.²¹ These negotiations shall continue.

3.4 Production area preparation

Planning and preparation of a peat production area is guided by the environmental guidelines for peat production and the environmental permit regulation, as mentioned in section 2.4. Peat production areas' water treatment planning for drainage water is based on *Best available techniques (BAT)*. Figure 4 shows the peat production area structures and water treatment systems. Read more about water treatment on [the brochure](#).²²

When planning a new peat production area, the water treatment system will be planned into an area where as much nutrients, humus and suspended solids as possible are removed from the drainage waters coming from the production area. This is most commonly an overland flow field which is sought to be established on an unditched mire. Further environmental protection is handled with buffer zones. Stockpile areas are planned more than 500 meters away from permanent or holiday accommodation and not close to water treatment systems nor outfall ditches. Buffer zones to prevent peat dust spreading are left on the area to minimise the impacts on the surrounding area. The illustration below describes all the water treatment structures, buffer zones and fire prevention basins in a peat production area.

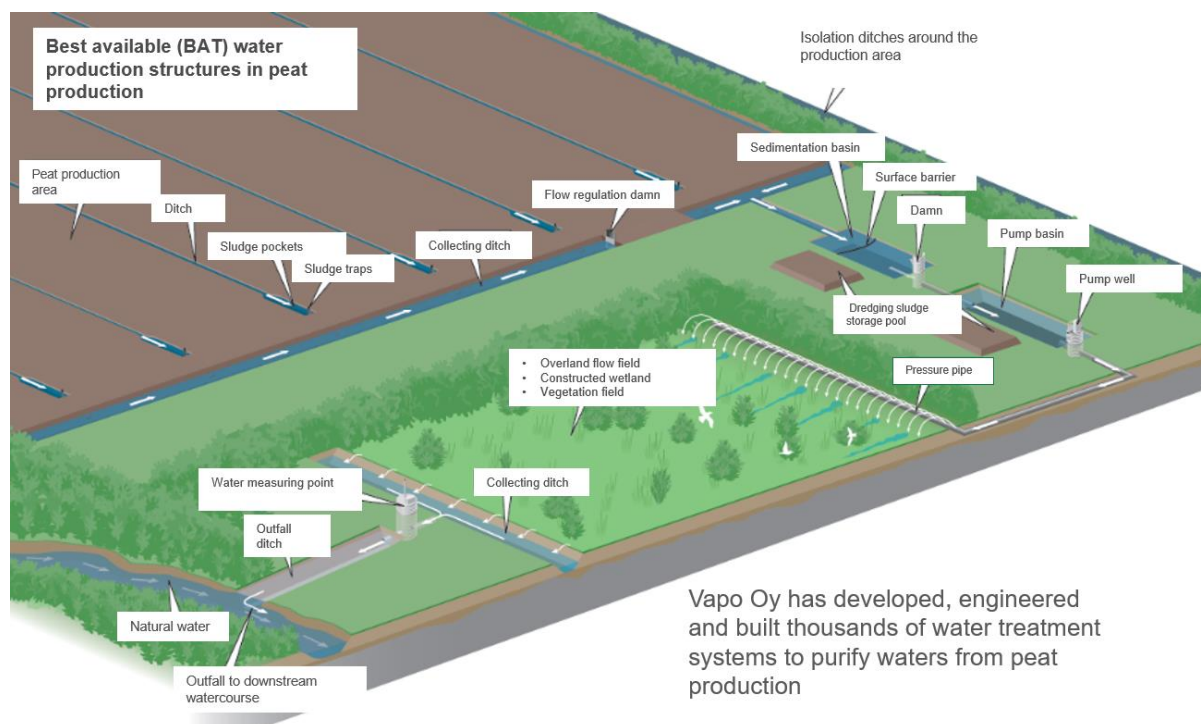


Figure 4. Peat production area structures and water treatment systems.

The preparation of a peat production area will begin with the construction of roads. After that, water treatment systems will be built and must be approved by the authority. Also, a safety plan is prepared for the site and submitted to the rescue authorities. The best available water treatment system is generally allowed to stabilise for two to three years before the peat production can start. If necessary, additional ponds and dams will be built to prevent solids and nutrients from entering the downstream watercourse.

Further production area preparation begins once the water treatment structures have been completed. In the beginning of the preparation, a waste collection place will be established in the base area where waste from the preparation, i.e. municipal solid waste, solid oil waste and waste oil will be placed and sorted. Finally, the area will be ditched for production.

Preparation contracting is tendered, and the contractor must provide contractor liability information through the Reliable Partner system. This ensures that the contractor has fulfilled its tax and other administrative obligations. Contractors must also register contract and employee information with the tax authority. Vapo Group's Supplier Code of Conduct is also reviewed with each contractor, and which the contractor must follow when dealing with Vapo Group. When the production area preparation begins, a risk assessment is carried out with the contractor to identify potential safety risks and how to prepare for them.

3.5 Peat production

Contracting

The operative peat production is performed by Vapo Group contractors. All contractors will adhere to Vapo Group's Supplier Code of Conduct and the management system requirements. Vapo Group's management system includes working instructions on peat production areas and plans on fire safety, environmental protection, use and maintenance of machines and occupational safety.

The contractor's liabilities are checked before signing the contract and constantly monitored through the Reliable Partner system (see more about the system on website tilaajavastuu.fi).²³ Also, possible contractor's subcontractor information is to be provided yearly to Vapo Group. Contractors are obligated to take liability insurance to cover possible damages to assets or personnel in their own operations, to Vapo Group or to third parties. Contractors and their employees are obligated to take part in environmental and safety trainings mandated by Vapo Group.

A crucial part in ensuring the competence of peat production workers are the obligatory trainings held yearly by Vapo Group before the production season. Based on these trainings, Vapo Group provides a production license to workers which is valid for five years. Training consists of:

- Vapo Group information and operational model
- Vapo Group Code of Conduct / Vapo Group Supplier Code of Conduct
- Environmental protection and responsibility
- Production and product quality
- Fire safety
- Occupational safety

From main Contractors, Vapo Group requires also a valid Occupational safety card (see more about the occupational safety card on website [Occupational safety card](#))²⁴ and a fire work license if fire work is conducted. Beginning from 2019, Vapo Group has also offered to main contractors the environmental safety card trainings to ensure competence in that area as well.

The main production work on peat production areas is done by tractors, and in Finland it is possible to get a tractor driving license at the age of 15. The laws dictate the work conditions and working hours for persons under the age of 18. Taking into account these stipulations from the law, contractors are permitted to employ persons under the age of 18 on Vapo Group peat bogs.

Peat production

After the peat bog preparation is complete and before peat production begins, a permit regulation meeting will be held, in which the regulations dictated on the environmental permit are reviewed by Vapo Group employees and the contractor. These regulations and the needed corrective actions are kept in a permit management system which is an internal system for environmental permit management.

Vapo Group and the contractor hold at least three production area meetings together during each production season in which all aspects of the contract are gone through.

A fire and safety plan is prepared for each individual peat production area. In these the information about appropriate contact personnel and safety information, e.g. production area map and firefighting equipment are kept and updated. Fire and safety plans are distributed to each region's fire authorities. Vapo also has a plan for major fire risk situations and possible fires. These are also updated at least yearly and distributed to personnel and contractors.

Contractors are obligated to keep up a usage logbook of the peat production area in which all the operations are logged. Contractors and Vapo Group personnel can use a mobile logbook through a browser-based application. The information in the logbook includes different production phases and e.g. possible wind breaks, reparation work, peat deliveries and even small fire situations. Also, weather monitoring is included in the logbook, mostly directly through automatic weather stations.

Work safety, quality and environmental observations related to peat production and other operations can be made by our own personnel and Vapo Group's subcontractors through an observation

application which works on tablets and mobile phones via a browser. These observations are handled/processed by responsible Vapo Group personnel for each production area. The rigorous handling of the observations has improved the safety level on peat production areas and the number of accidents has considerably reduced. Our goal is zero accidents.

3.6 Environmental care during peat production

Vapo Group's environmental specialists are responsible for managing environmental issues in co-operation with other employees and environmental stakeholders. Environmental specialists monitor that environmental permit requirements are fulfilled, implemented and reported with agreed guidelines.

Environmental specialist's responsibilities:

- Environmental monitoring, follow-up and reporting of results
- Communicating environmental permit decisions (permit regulation meeting)
- Managing and maintaining permit information on the permit management system
- Participating in and supporting the permitting process
- Responsibility for maintaining the necessary information systems
- Informing the staff of environmental issues
- Stakeholder co-operation and communication
- Coordinating environmental programmes with operative teams

Environmental risk prevention

Vapo Group has work instructions and manuals on the prevention, preparedness for and response to environmental emergencies. These can be found in the management system (IMS). Contractors have access to all instructions through the online service.

Instructions for peat production include:

- Instructions for controlling and supervising the production
- Safety instructions for peat production, e.g.:
 - Peat production area safety guide
 - Guide to fire safety in peat production areas
- Communication and action in case of fire

Environmental guidelines for peat production include, e.g.:

- Oil and fuel damage prevention guide
- Safety instructions for chemical stations
- Environmental structures service and maintenance guide
- On-Site storage of fuel liquids

3.7 Internal inspections

Internal inspections and self-control on the environmental protection structures demanded by environmental permit regulations are continuously conducted in peat production areas. During the production season (roughly from May to September) contractors have an obligation to continuously monitor the condition and operation of the environmental protection structures.

Meticulous check-ups are done once a month and reported through an application. In this system, every structure is separately reported, and possible needs for reparations are monitored by Vapo

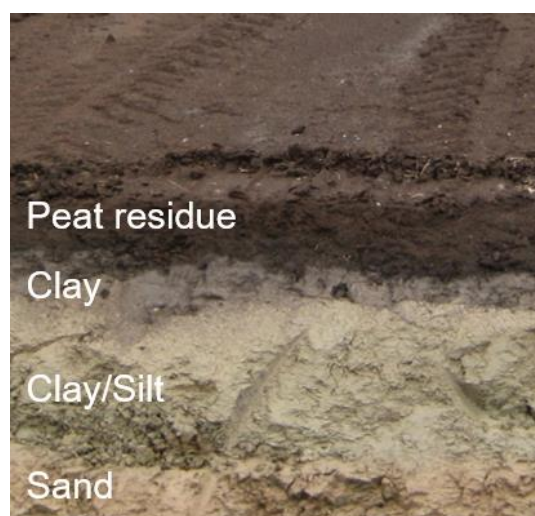
Group. The upkeep and further development of environmental protection structures are continuously planned and monitored by Vapo Group.

Vapo Group also employs people during the summertime to perform thorough check-ups on the peat production areas. Vapo Group arranges introduction days for all new summer employees and trains them to do environmental inspections. Inspections are carried out on targeted production areas, covered yearly about 30% of all the areas. These inspections give us results based on the same criteria in every production area that we operate throughout Finland. Results of every inspection and corrective actions with responsible people and timetables are kept in permit management system.

Also, anyone can report observations via the online reporting observation were responsible person is identified and result is controlled. Via those systems it is possible to choose what kind of observation is made, safety, environmental, quality or success related, and observation can also be something positive for sharing best practices to others.

3.8 Next land-use after peat production

Peat production typically lasts 20-30 years in an area. On the areas released from peat production, there typically remains a few tens of centimetres of peat on the top of the mineral soil (picture 1). The thickness of residual peat is important for the subsequent vegetation formation. Too thick a layer of peat hinders tree growth and too thin a layer risks erosion of the mineral soil. The optimum peat layer is over 10 cm but less than 50 cm.



Picture 1. Cross sectional view of peat residue and mineral soil beneath it after peat production.

After production, peat production areas are suited for many types of next land-use.²⁵ The decision of the type of next land-use is made by the landowner, based on Vapo Group's expertise. If the landowner is other than Vapo Group, Vapo Group makes recommendations for the most suitable next land-use form in order to quickly restore the cut-away area and make it a carbon sink.

The most common forms of next land-use in Finland are afforestation (75%), agriculture (20%) and wetland creation or restoration (paludification) (5%) (pictures a-d). Next land-use should be started as quickly as possible after the production ends. Vapo Group is committed to transfer the cut-away areas to the next land-use within two years from the end of production. The area returns quickly to a carbon-accumulating ecosystem as the forest starts to grow or the area is re-wetted and new peat begins to form as a result of the decomposition process.



A)



b)



c)



d)

Pictures a-d: next land-use of cut-away peatlands. A) afforested area, b) agriculture, c) constructed wetland and d) paludification.

The drainage method used during the peat production determines the new land-use use form. Gravimetrically drained production areas can generally be used as arable land or for forestry. Afforestation creates new carbon sinks and compared to an area's initial stage, the biodiversity can be increased. Forest management is the most effective way to sequester carbon quickly after production.

Areas that are naturally permanently under water, will be recreated as wetlands or left re-wetted (paludification). Once the peat has been removed, active mire regeneration returns the areas to peat forming ecosystems. In the long term, these can significantly increase regional biodiversity compared to the situation which prevailed in the area before peat production. With natural succession, wetland vegetation begins to spread to the re-wetted area. Over time, decaying vegetation begins to accumulate new peat and to increase permanent carbon storage.

Creating wetlands is also valuable for ecological restoration and management. Properly established wetland sanctuaries are rich habitats, where many birds and other fauna find suitable living environments. Wetlands can be important locally or even regionally for bird-watching or hunting. Wetlands can also be used in the purification of run-off water from other land-use, reducing the nutrient and suspended solid load on watercourses.

4 SOCIAL RESPONSIBILITY

4.1 Stakeholder communication

4.1.1 Stakeholder communication before permitting

It is vital for us to engage in cooperation with our stakeholders. Dialogue, feedback and good cooperation are the key methods for promoting mutual understanding between stakeholders and Vapo Group. Vapo Group communicates with stakeholders before a permit application is initiated. We have created an event where stakeholders can express their concerns and opinions, ask questions and get information on the application. Based on the information obtained in the event, Vapo Group can modify the plan and application so that stakeholder concerns are taken into account, if possible.

4.1.2 Hearing on permitting process

In the process of applying for an environmental permission, stakeholders are given an opportunity to give their opinion about the application. Before deciding on the matter, the state regional administrative agency reserves the opportunity to leave objections to those whose rights or interests the matter concerns. This includes the landowners in a 500-meter radius from the peat production area and those whose property is bordered by the water body receiving the drainage water from the production area. Parties other than the ones directly affected, have the opportunity to express their opinions. These usually include the local nature conservation association.

4.1.3 Open doors and site visits

We organise annually open-door events and visits to our peat production areas. Open-door events are open for inspection by anyone interested and they are mainly promoted in local media. During the visits, the visiting groups get to know the usage and production of peat, selection of production areas and environmental requirements such as water treatment methods under the guidance of Vapo Group's specialists. Contents are customised with regional and current topics.

4.2 Corporate Responsibility report

Vapo Group's Corporate Responsibility report is based on the Global Reporting Initiative framework. In reporting on the economic, environmental and social impacts of its operations, Vapo Group applies the GRI Standards Core scope and the Electric Utilities Sector Supplement. The reporting is based on a materiality analysis that is used to determine the views of Vapo Group's stakeholders and the company itself regarding the most material corporate responsibility topics related to our operations.

5 FINANCIAL RESPONSIBILITY

Profitable business and long-term development of competitiveness are the basis of financial responsibility. Sustainable economic activity also creates added value for stakeholders. Vapo Group pays all its statutory taxes to the country in which it operates. In recent years, Vapo Group has invested significantly in improving profitability and developing new businesses. For instance, in 2019 the total investments were 78.1 million euros.²⁶ The biggest investment was the start of construction of an activated carbon plant. The company expects its net sales to grow and profitability to remain almost at the same level. The new businesses will significantly increase the company's investment efforts in the ongoing year as new production capacity is built.

Vapo Group is a major employer in cities and outside urban areas. The business is, by nature, very local in Finland. Vapo Group and its contractors operate and employ people in about 129 municipalities in Finland. Vapo Group has almost 500 employees in Finland and the salaries paid by Vapo Group for the 20 municipalities with the highest taxable income were 31.5 million euros in 2019.²⁶ Vapo Group is also a stable dividend payer (e.g. 12 million euros for the financial year 2019). The direct employment impact of peat production in Finland is over 2000 man-years²⁷ and indirect impact about double²⁸.

Also, the local effects as a taxpayer and purchaser of goods and services are important. In the year 2018 Vapo Group's turnover (including all its legal companies) was 533.7 million euros.²⁶ In Finland, the direct taxes payable were 11.7 million euros and the indirect taxes 9.6 million euros. The purchases in 2019 were 157 million euros allocated to 18 provinces in continental Finland.

6 VERIFICATION OF THE SUSTAINABILITY CONCEPT FOR PEAT

The Concept is based on Vapo Group's policies and practices, so that it is already a part of the certified ISO 9001 quality and 14001 environmental management systems which are regularly audited. In Finland, peat production is subjected to environmental permitting and directed and supervised by authorities.

GLOSSARY OF TERMS

1. **Afforestation.** Afforestation means establishing a forest in an area where no forest has been grown, such as a former peat production area. Afforestation is usually done by planting seedlings or sowing seeds.
2. **Audit.** Systematic and documented process for obtaining audit evidence and evaluating it objectively to determine the extent to which the audit criteria are fulfilled.
3. **Buffer zone.** A protection zone is a strip of physical land area adjacent to peat production area, which is typically vegetated or preserved to reduce the environmental impact of the peat production operations on neighbouring areas.
4. **Biodiversity.** The variability among living organisms on Earth. Biodiversity is typically a measure of variation at the genetic, species and ecosystem level.
5. **Biomass.** Biomass is organic material that comes from plant materials and it is renewable source of energy or material.
6. **Best available technique.** Best available technique is a technology approved by regulators for meeting regulations for peat production's water treatment. It is defined on a case-by-case according to the characteristics of each production area and receiving waterbody.
7. **Carbon sequestration.** The biochemical process in which atmospheric carbon dioxide is taken up by living organisms through photosynthesis and stored as carbon in biomass such as wood, peat and soil.
8. **Circular economy.** An economic system aimed at eliminating waste and the continual use of resources such as peat.
9. **Code of Conduct.** A set of rules outlining the norms, rules and responsibilities of an individual. A company code of conduct is a code of conduct commonly written for employees of a company, which protects the business and informs the employees of the company's expectations.
10. **Conservation.** The act of conserving and preserving the nature in order to protect it so that it is not over-exploited.
11. **Growing media.** A substance through which plant roots grow and extract water and nutrients. It is material other than soil in the ground, e.g. peat.
12. **Cut-away area.** A peatland, where peat has been produced/removed. The land base area that is object of the next land-use.
13. **Drainage water.** Natural water discharged from the production area into the water bodies. It is created as a result of precipitation and reduction in a mire water reserve.
14. **Ecosystem.** A biological community of organisms interacting in a physical environment within a defined geographic area (e.g. mire, lake, forest). Organisms means plants, animals and micro-organisms.
15. **Environmental permit.** According to Finland's environmental protection legislation, environmental permit is needed for all activities involving the risk of pollution of the air and water or contaminating the soil.

Application must be made to the relevant authority as defined in the Environmental Protection Act and Degree.

16. **Greenhouse gas.** GHG, is gas that absorbs and emits radiant energy causing greenhouse effect and contributes to climate change. Primary GHGs include water vapour, carbon dioxide, methane, nitrous oxide and ozone.
17. **Habitat.** The type of natural environment in which a particular species of organisms' lives.
18. **High value-added product.** A product with substantially higher added value compared to traditional usage of raw material. In the value chain, the raw material is processed with different methods towards higher-value products.
19. **Management system.** A set of policies, processes and procedures used by an organisation to ensure that it can fulfil the tasks required. For example, an environmental management system enables the organisation to improve its environmental performance.
20. **Mire.** A term for all kind of wetland types (fens, bogs, wetlands) which is actively forming peat. Forms of incomplete decomposition of organic matter due to water-logging and subsequent anoxia.
21. **Next land-use.** After the peat production is completed, the area will be transferred to next land-use. Next land-uses are afforestation, cultivation, paludification and different types of wetlands. The choice depends on the suitability of the area and the owner's will. Combinations of several forms can be applied in one area.
22. **Overland flow field.** A pristine or unditched restricted peatland where runoff water is purified as it flows through the upper layers of the peat layer. The field holds suspended solids, nitrogen, phosphorus and iron.
23. **Paludification.** Process in which peatlands in boreal zone are formed on previously drier area caused by the rising of the water table.
24. **Peat.** Organic soil material formed by incomplete decomposition of mire and peatland vegetation, which is deposited at its formation place. Geologically classified as peat is a material that has dry matter content of at least 75% organic matter. Where the water level is stable near the peat surface, the remains of dead plants and mosses do not fully decompose due to the absence of oxygen and therefore a layer of organic material accumulates over time where litter deposition exceeds anaerobic decomposition.
25. **Peatland.** A peatland is an area dominated by moss species like *Sphagnum* with a naturally accumulated peat layer at the surface. According to different definitions, this layer needs to be at least 30 cm thick for a soil to be classified as a peat even if it has been completely drained.
26. **Responsibility.** In Businesses, business responsibility be a process through which companies choose to take responsibility for their actions and encourage positive impacts through their activities on the environment, consumers, employees, shareholders, communities and all other members of the public who may also be considered as stakeholders.

- 27. Responsibly produced peat, RPP.** A certificate for horticultural peat which meets all responsibility requirements defined in the RPP scheme.
- 28. Restoration.** The process in which an ecosystem returns to its original stage.
- 29. Sustainability.** Sustainability focuses on meeting the needs of the present without compromising the ability of future generations to meet their needs. Sustainability is composed of three aspects: environmental, social and economic.
- 30. Sustainable development goals.** Adopted by all United Nations Member States in 2015 as a universal call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity by 2030. Sustainable development goals are the blueprint to achieve a better and more sustainable future for all.
- 31. Stakeholder.** Any person, organisation, company or other party interested in or concerned with peat production and the handling and use of peat-based products.
- 32. Surface water.** Rivers, lakes, ponds, streams, wetlands and other water collected at the ground surface.
- 33. Wetland.** Seasonally or permanently water-logged area that can be constructed on a cut-away production area as the next land-use or as a water treatment system for peat production. The wetland can be partly constructed as an open water surface or it can be planted with suitable seeds. Vegetation also spreads naturally to the area.
- 34. Water body.** Naturally existing bodies of water, such as lakes, rivers, streams and wetlands.
- 35. Water source.** A water resource that is useful, or potentially useful, to society. Usually means freshwater like groundwater, rivers, lakes and reservoirs.

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