FINNISH TOWARDS SUSTAINABLE MINING (TSM) STANDARD
The Finnish Network for Sustainable Mining provides a forum for companies operating in the mining industry to interact with their communities of interest. The network aims to share information and experiences and advance the building and introduction of more responsible mining practices in Finland.

The companies that have committed to the Finnish Towards Sustainable Mining (TSM) Standard prepared in 2016 adhere to guiding principles that are sustainable in terms of environmental, social and economic performance. Sustainable mining covers the entire project life cycle from exploration to mine closure and post-closure monitoring.

The Finnish Towards Sustainable Mining Standard provides mining companies with concrete instructions for sustainable operations. The Standard is also used to assess performance and verify member companies’ commitment to the common ground rules. Decisions on companies covered by the Standard are made by the core group (“board”) of the Network for Sustainable Mining.

The Finnish Towards Sustainable Mining Standard consists of the common guiding principles and eight assessment tools, which cover all stages of the mining life cycle.
GUIDING PRINCIPLES OF THE FINNISH TOWARDS SUSTAINABLE MINING STANDARD

1. The operations of the companies are transparent.
2. The companies will adhere to best practices in the mining industry and commit to the continuous improvement of their operations.
3. The companies will minimise any negative impacts of their operations on local communities, the environment, and biodiversity.
4. The companies will respect the surrounding community and its culture and ways of life.
5. The companies will promote initiatives that safeguard the vitality of the areas of their mining operations after the termination of mining operations.
6. The companies will engage in active dialogue with their communities of interest, and involve these in the development of the principles for sustainable mining.
7. The companies will not jeopardise the health and safety of their employees or local communities.
8. The companies will promote the sustainable use of mineral resources and participate in development projects that aim to the safe and responsible production and recycling of metals and minerals.
9. The companies will close their mines safely and support the development of mine closure activities.
PRACTICAL ADVICE ON ASSESSING RESPONSIBILITY

Mining companies can assess, monitor and improve their performance using eight assessment tools. The tools also provide a basis for external auditing. The summaries presented on the following pages briefly discuss the application principles and contents of the assessment tools.

The full versions of the assessment tools are available at: www.kaivosvastuu.fi

Assessment tools:
1. Community Outreach
2. Biodiversity Conservation
3. Tailings Management
4. Water Management
5. Energy Use and Greenhouse Gas Emissions
6. Health and Safety
7. Crisis Management Planning
8. Mine Closure

Professional judgement is required when assessing performance in accordance with the Finnish Towards Sustainable Mining Standard. The application of the assessment tools also requires that the assessor have sufficient expertise in the area in question and management systems assessment.
Mining has an extensive and multidimensional significance for society in terms of economic, environmental and social impacts. Mining companies must be aware of the impacts of their operations and maintain ongoing, constructive and genuine dialogue aiming at cooperation with their communities of interest (COIs).

The mining companies complying with the Finnish Towards Sustainable Mining Standard recognise that the social licence of mining activities depends upon responsible social, economic and environmental practices. Good and regular interaction with communities of interest is part of a company’s daily operations, covering all stages of the mining life cycle from exploration to mine closure and post-closure activities. Successful community outreach activities provide a basis for better decisions.

The term ‘communities of interest’ or ‘stakeholders’ refers to individuals and groups such as NGOs, civil society associations, population, economic or other interest groups, landowners, employees, public sector operators and authorities.

The companies complying with the Finnish Towards Sustainable Mining Standard commit to the following:

1. The companies will identify the key COIs of their operations and encourage them to engage in dialogue and participate in issues of concern to them. The companies will identify the interests and needs of key COIs and the impacts of the operations on each COI.

2. The companies commit to applying good practices described in the stakeholder engagement toolbox\(^1\) to enhance interaction between the companies and COIs.

3. The companies will adhere to the principles of openness and transparency in their operations. COIs will be provided with information and consulted actively and in a timely manner. Sufficient time will be built into consultation processes to allow for the meaningful review of proposals and materials by COIs.

4. COIs will be consulted in a spirit of mutual respect. The companies commit to promoting the identification of social and environmental impacts through engagement with COIs and to actively seeking and implementing measures to mitigate any adverse impacts. Any impacts of mining on local communities will be monitored in cooperation with COIs.

5. The companies commit to collecting feedback from their COIs in order to develop their operations and community outreach activities. Any concerns raised by COIs will be responded to, and efforts will be made to seek solutions to the causes of the concerns.

6. The companies undertake not to weaken the opportunities of the Sámi, as an indigenous population, to exercise their right to maintain and develop their culture and practise their traditional livelihoods. In addition, the Akwé: Kon Guidelines\(^2\) are complied with in the Sámi Homeland.

7. The companies commit to complying with the guidelines of the toolbox on local practices issued by the Finnish Network for Sustainable Mining for mining activities carried out in the Sámi Homeland.

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\(^1\) Toolbox: Mining. Network for Sustainable Mining. (http://www.kaivosvastuu.fi/handbook/)


\(^3\) Toolbox: Mining. Network for Sustainable Mining. (http://www.kaivosvastuu.fi/handbook/)
The conservation of biodiversity⁴ is one of the guiding principles of sustainable mining. The mining companies complying with the Finnish Towards Sustainable Mining Standard recognise that access to land and a company’s social licence depend upon responsible social, environmental and economic practices and that there is a strong business case for supporting biodiversity conservation. The companies seek to minimise adverse impacts on biodiversity and compensate for such impacts in full in accordance with the No Net Loss/Net Positive Impact⁵ principle. The companies accept that a corporate commitment to biodiversity conservation is essential.

The companies complying with the Finnish Towards Sustainable Mining Standard commit to the following:

1. The companies will make a positive contribution to the conservation of biodiversity through all stages of the mining life cycle.

2. The companies will work with key communities of interest to develop and implement responsible policies and practices to:
   • integrate biodiversity conservation with mining and land-use planning and management strategies, including considering the option of not proceeding with a project;
   • assess and monitor the state of biodiversity throughout the project cycle;
   • avoid, minimise, mitigate and/or compensate for significant adverse biodiversity effects;
   • enhance, through research, information sharing and/or partnerships, the industry’s understanding of and contribution to biodiversity conservation, science and traditional knowledge;
   • establish, finance and implement comprehensive reclamation plans that restore mine sites into viable and diverse ecosystems and that take account of other land uses in the area.

3. The companies are committed to openness and transparency as well as public reporting on issues related to mining and biodiversity conservation.

4. Recognising that Natura areas, legally-designated nature reserves and other areas and sites that are valuable in terms of nature conservation can contribute to biodiversity conservation, the companies will comply with the relevant conditions and requirements set in national legislation. The companies are committed to working with key communities of interest to develop transparent, inclusive, informed and equitable decision-making processes to promote nature conservation.

5. No exploration or mining activities will be carried out in World Heritage sites.

6. No mining can be carried out in Natura areas, the neighbouring areas affecting them, or other legally-designated nature reserves unless legal obligations are met and any negative impacts on biodiversity are compensated for in full, in accordance with the No Net Loss/Net Positive Impact principle.⁶

7. The companies commit to ensuring that existing and future operations in legally-designated nature reserves and adjacent to such areas are compatible and in accordance with biodiversity goals.

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⁴ The Convention on Biological Diversity defines 'biodiversity' as: “The variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.”

⁵ According to the principle, any adverse impacts of a project are minimised or compensated for, so that the project has no negative impacts on biodiversity.

⁶ This complies with the guidelines presented in the Guidance Document “Non-energy mineral extraction and Natura 2000” issued by the European Commission. (Publications Office of the European Union, 2011. ISBN 978-92-79-18646-2). The guidelines show how the needs of extractive industry can be met whilst avoiding adverse effects on wildlife and nature. They examine how the potential impacts of extraction activities on nature and biodiversity can be minimised or avoided altogether. The purpose of the document is to provide guidance on how best to ensure that non-energy extractive industry developments are compatible with the provisions of the EU’s Natura legislation.
A key aim of responsible tailings management is to ensure that the operations cause no adverse impacts on the environment or human health or safety. With respect to tailings disposal, it is essential to ensure dam safety, in particular, i.e. to prevent any accidents caused by dams. Other risks associated with tailings management include the quantity and quality of leachate and dust.

**The companies complying with the Finnish Towards Sustainable Mining Standard commit to the following:**

1. The companies will identify dam safety risks and seek to prevent them throughout the mine life cycle.
2. The companies will establish a tailings management policy and operational guidelines, and ensure that these are maintained and updated.
3. The activities of the companies will comply with Finnish legislation. In addition, the companies will implement a tailings management system in conformance with best available practices.7
4. The companies will consult with communities of interest when developing tailings management systems.
5. The companies will have clearly assigned internal accountability and responsibility for tailings management.
6. Tailings management will be reviewed and reported to corporate management annually. Up-to-date information on the adequacy and effectiveness of the management systems will be available for the management.
7. The facilities of the companies will develop and implement guidance for tailings management. In addition, the facilities will prepare documented emergency preparedness and response plans.

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7 Best available environmental practices include the following guidance documents: Metallimalmivaatosten parhaat ympäristökäytännöt (Best environmental practices in metal mining operations) (SY/The Finnish Environment 29/2011), BREF: Management of Tailings and Waste-rock in Mining Activities (EC 2009 and the ongoing review), Patoturvallisuusopas (Dam safety guide) (Hämeen ELY-keskus/Centre for Economic Development, Transport and the Environment for Häme 2012). In addition, MAC’s guides, which to a large extent cover the same areas, can be applied in operations.
Systematic and comprehensive water management is an integral part of the operations of every mine. Due to surface and ground water resources, the area affected by a mine’s operations is extensive. The companies commit to minimising any negative environmental impacts of their water use. The implementation of water management plans will be systematically monitored.

The companies complying with the Finnish Towards Sustainable Mining Standard commit to the following:

1. The companies will prepare and maintain water management action plans that cover all stages of the mining life cycle. The companies will maintain a water balance model.

2. The companies commit to being aware of their site’s water management at all times. The companies will ensure that they know the risks associated with water management and manage such risks systematically.

3. In their water management plans, the companies commit to making provisions for exceptional circumstance and climate change.

4. The companies will work with key communities of interest to develop and implement responsible policies and practices to:
   - identify values related to water use that are important to communities of interest and incorporate these values into water management planning and implementation;
   - avoid negative impacts on water bodies and groundwater; and
   - enhance, through research, information sharing and/or partnerships, the industry’s understanding of water management and treatment.

5. The companies are committed to openness and transparency as well as public reporting and communications on issues related to water management and its state as well as the progress achieved towards water management targets.

6. The member companies commit to continuously improving their water management activities and reviewing and updating their water management plans. In addition, the companies will take account of new technologies and apply them, where possible.

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8 A calculation model that describes the mining site's water balance and any changes in it. It includes all water fractions coming to, leaving from and stored in the area. The model will be updated on the basis of observations made.
Climate change is a global challenge that also requires measures by the mining industry.

The companies complying with the Finnish Towards Sustainable Mining Standard commit to the following:

1. The companies will implement energy use and greenhouse gas emissions management systems.
2. The companies will identify key issues and significant areas for improvement relating to energy use and greenhouse gas emissions.
3. The companies will monitor their energy use and greenhouse gas emissions using appropriate systems and report on performance internally and externally.
4. The companies commit to establishing energy use and greenhouse gas emissions performance targets at all levels and in all areas of business.\(^9\)
5. The companies will assess significant energy consumption sources and emission sources regularly, and use the information obtained in support of decision-making and planning.
6. The companies will reduce their dependence on fossil fuels and shift progressively to low-carbon and renewable energy sources.

\(^9\) Recognising that climate change is a global issue and that the geographic location or source of greenhouse gas emissions does not matter, companies are encouraged to set performance targets that achieve the greatest reductions at the lowest cost, regardless of location.
The member companies of the Network for Sustainable Mining have committed to managing their operations in such a way that they do not jeopardise the health, safety and wellness of their employees, contractors, visitors or local communities.

Employees are entitled to work in a safe and healthy workplace. All occupational accidents and diseases can be prevented.

The companies complying with the Finnish Towards Sustainable Mining Standard commit to the following:

1. The ultimate goal of the companies is zero accidents as all occupational accidents and diseases are preventable. Achieving health and safety targets is a shared responsibility of the companies and their employees, contractors and suppliers.

2. The companies will build, support and sustain practices and behaviour that maintain and improve working conditions and employee health. The companies will develop tools for measuring and monitoring the level of performance. In addition, the companies will implement and maintain a health and safety management system.

3. The companies will establish clearly defined responsibility and accountability at the board and senior management level for their health and safety performance.

4. The companies will also integrate health and safety performance targets into their business and risk management plans.

5. The companies will actively promote and encourage health and wellness issues even during leisure time.

6. The companies will encourage and support their contractors and suppliers as well as other key communities of interest in building their capacity to be safe and healthy. The companies play an important leadership role in this regard.

7. The companies will report on health and safety performance metrics to employees, contractors and key communities of interest.
CRISIS MANAGEMENT PLANNING

The companies complying with the Finnish Towards Sustainable Mining Standard commit to maintaining and developing the crisis management preparedness of their mines for accidents and emergencies. Such incidents also include natural disasters, environmental releases and political and security risks. The aim of the companies is to maintain preparedness to act in exceptional situations and prevent uncontrolled property damage, personal injuries and environmental damage at the mining site and its operating environment.

The companies complying with the Finnish Towards Sustainable Mining Standard commit to the following:

1. In the companies, company management will be responsible for crisis management, appoint the Crisis Management Team (CMT), and allocate the financial, human and material resources for it.

2. The companies will prepare a crisis management plan, which describes preparedness and practices in situations such as accidents and emergencies, natural catastrophes, environmental releases, political and security risks and other potential situations leading to a crisis. The companies will identify the risks associated with their operations and the risk management measures to be taken in a crisis. Communities of interest will be provided with an opportunity to comment on the company’s crisis management plans, as appropriate.

3. The companies will assess their crisis management preparedness regularly to ensure that it meets the needs of the company, reflects the risks associated with the company’s operations, and takes account of best practices within the industry. The crisis management plan will be updated on the basis of the assessment.

4. The companies will organise regular crisis management training and exercises participated by personnel, contractors and key authorities related to crisis management.

5. The crisis management plan will be communicated to personnel, contractors, fire and rescue authorities, environmental authorities as well as other communities of interest, operators and residents in the area affected.

6. The companies will share experiences and practices related to crisis management with each other to learn from them.
MINE CLOSURE

When a mine is closed, the aim is to restore the area to such a state that the site causes no risk to the environment or public health and safety. The Network for Sustainable Mining emphasises the importance of risk management and aims at the continuous improvement of operations.

The companies complying with the Finnish Towards Sustainable Mining Standard will promote initiatives that safeguard the vitality of the areas of their mining operations after the termination of the operations. The aim is that there would be operations in the mining area even after mine closure – otherwise the area will be restored to its natural state. In addition, the companies commit to not causing any irreversible adverse impacts on the environment through their mining operations.

The companies complying with the Finnish Towards Sustainable Mining Standard commit to the following:

1. The companies will develop, maintain and update mine closure plans.
2. The companies commit to working with communities of interest in mine planning and post-closure activities, and will consider values that are important to communities of interest in their mine closure objectives.
3. The companies will develop mine-specific mine closure plans for new and existing mining sites, based on the needs of the mine. The companies will apply good practices in mine closure planning and implementation. Closure planning includes a clear definition of objectives, a risk assessment and identification of alternatives, a budget, indicators to assess the effectiveness of closure measures, and a monitoring plan.
4. The companies will start mine closure planning at the early stages of the project. Plans will be specified throughout the project life cycle. Progressive mine closure is recommended where possible.
5. Closure plans will also consider temporary mine closure scenarios.
6. The companies commit to keeping their closure plans and the related cost calculations up to date.
7. The companies will ensure financial arrangements for closure.
8. The companies will assign accountability and responsibility for mine closure planning, budgetary issues, mine closure measures and post-closure monitoring clearly within the organisation.
9. The companies will actively implement their closure plans and ensure that the closure measures meet the objectives set.
10. The companies will report mine closure planning and implementation measures internally annually, in order to provide management with up-to-date information on the adequacy of closure plans and measures.