

2022

EU Taxonomy Progress Report

Every particle counts...

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Summary

There is no legal requirement to report on EU taxonomy in 2022. Tekna Holding ASA (“Tekna”) endeavours to provide insights into its progress on the subject. We have based our assessments on the Climate Delegated Act¹ as well as the Platform on Sustainable Finance’s reports².

For 2022 Tekna continues to have a high percentage of eligibility. Interpretations are still being made to the applicable criteria and Tekna has chosen to wait with alignment reporting.

We plan to expand our assessment to cover core activities for alignment in 2023 reporting, as we expect further criteria will be adopted by the EU and more guidance will become available.

3.6. Manufacture of other low carbon technologies (Climate Change Mitigation)

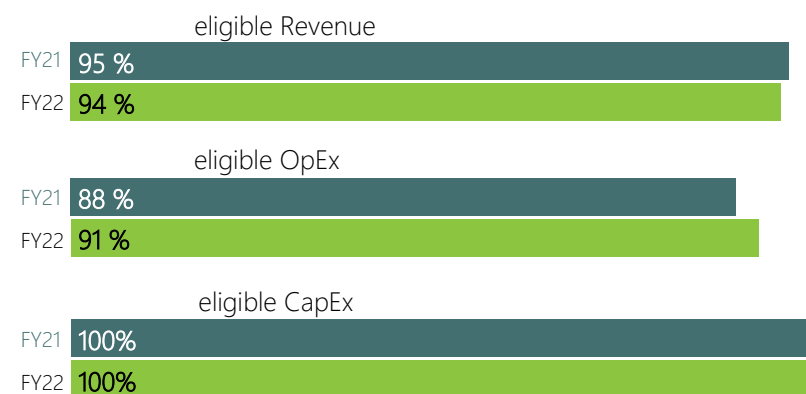


Figure 1: Eligible share of Revenue, CapEx and OpEx for Tekna

Introduction

What is EU taxonomy and why is it important? The EU taxonomy is a classification system, establishing a list of environmentally sustainable economic activities. It may play an important role in helping the EU scale up sustainable investment and implement the European green deal. The EU taxonomy would provide companies, investors and policymakers with appropriate definitions for which economic activities can be considered environmentally sustainable. Therefore, it should create security for investors, protect private investors from greenwashing, help companies to become more climate-friendly, mitigate market fragmentation and help shift investments to where they are most needed.

The EU Taxonomy regulation was adopted in Norway on 17 December 2021 and entered into force in Norway from 1 January 2023.

1: Commission Delegated Regulation (EU) 2021/2139 of 4 June 2021.
 2: Draft report published in August 2021 and the report published in March 2022 were considered the most relevant

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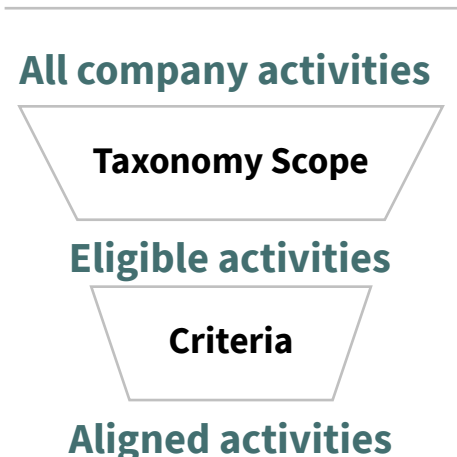
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Tekna and the EU taxonomy

Motivated by our majority shareholder Arendals Fossekompagni ASA ("AFK"), Tekna has started its assessments related to EU taxonomy already in 2021 when we reported on eligibility. In progressing with our in-depth evaluations, we faced uncertainties regarding the interpretation of the requirements.

Tekna chose to wait with alignment reporting as its technology and its application is very specific. Identifying the best performing alternative and the required associated life cycle GHG emissions is therefore not evident. There is also a lack of industry level documentation. Providing the required third-party verification for any assessment is also not readily available.

In 2023 we will benchmark how (niche technology) organizations applied and documented on the criteria and ensure a solid reporting on alignment for Tekna based on best-practice going forward.



In the qualitative statements we describe our considerations for the assessment of eligibility and identifying the best performing alternative.

Scope

Tekna evaluated its core activities for eligibility and did not assess its Systems service revenues (spare parts and maintenance) or R&D revenues. We have not included the joint venture Imphytek Powders as they are not consolidated in Tekna's financial statements.

Process

How it works (simplified)? Step 1: The company determines what activities are in scope of the EU taxonomy. These are called Eligible activities. Step 2: Applying 3 groups of criteria to a company's activities, namely 1) Sustainably contribute, 2) Do no significant harm and 3) Minimum safeguards, to determine its Aligned activities.

The activities are reported in Revenue, Opex and Capex.

Assessments have been performed in accordance with the structure of the EU Taxonomy, starting with eligibility assessments before assessing compliance with the criteria for substantial contribution and do no significant harm ("DNSH"). The minimum safeguards assessment has been conducted based on policies and procedures in place.

Eligibility

Tekna was assisted in the assessment in methodology by AFK and their consultants.

Eligibility was assessed considering the company's business activities against the economic activities defined in the EU Taxonomy. Relevant NACE-codes and activity descriptions for each economic activity were identified and examined.

The table below describes the nature of the eligible economic activities.

Economic activity in the EU Taxonomy	Business activity	Assessment of technical screening criteria
3.6. Manufacture of other low carbon technologies (Climate Change Mitigation)	Production of metal powder produced for additive manufacturing, microelectronics and energy storage. Production of plasma systems, including auxiliary equipment such as power feeders, probes and powder washing systems	Activities considered Enabling Not assessed for alignment, pending documentation and clarifications regarding the application of the substantial contribution requirements. Conclusion: Eligible, not aligned

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Process (continued)

In the Alignment section below we also include assumptions and choices made in the eligibility assessment.

Alignment preparations

The alignment process consists of assessing Tekna's different activities for criteria of "substantial contribution" and "do no significant harm", as well as meeting the "minimum safeguards" as an organization.

1. Substantially contribute

Substantial contribution to climate change mitigation



2. Do no significant harm

Do no significant harm to the remaining environmental objectives



3. Minimum safeguards

Comply with minimum social and governance safeguards (e.g. OECD guidelines)

Substantial contribution criteria

The criteria applicable to Tekna refers to comparing GHG emissions in the supply-chain and production of Tekna and the best performing alternative technologies. These are generally unknown to us for alternative technologies. We have not found relevant third-party publications at industry level, for instance, that could help substantiate any assumptions we make in this regard. We do expect the Additive Green Manufacturing Trade Association to publish research to the effect early this year (2023).

We will continue our efforts in 2023.

Do no significant harm criteria ("DNSH")

We are in the process of assessing our activities compliance with the DNSH criteria on: Climate adaptation, Water, Circular economy, Pollution prevention and Biodiversity.

Minimum safeguards criteria

Minimum safeguard requirements are defined in article 18 of the EU Taxonomy regulation, which states that the company should ensure policies that align with:

The OECD Guidelines for Multinational Enterprises (OECD Guidelines for MNE)

The UN Guiding Principles on Business and Human Rights (UNGPs), including the principles and rights set out in the eight fundamental conventions identified in the Declaration of the International Labour Organisation

on Fundamental Principles and Rights at Work

The International Bill of Human Rights.

In general, Tekna complies with the minimum safeguards criteria.

Refer to the Transparency Act Report 2022 included in the Sustainability report 2022.

Assessment per business unit

Systems and PlasmaSonic - Manufacture of machinery for metallurgy: Plasma systems

Relevant for Revenue and OPEX

The plasma technology efficiently produces metal powders, hence lowering the GHG footprint of metal production by reducing the total raw material consumption in the production process. The plasma machines themselves should be more energy efficient compared to other alternatives for similar production processes for the criteria to apply.

Tekna has 4 different types of Inductively Coupled Plasma ("ICP") plasma systems with different alternative technologies to be considered per purpose or material processed.

Alignment consideration: In general, we lack information on the supply chain, and GHG emissions within, of the best performing alternative to compare if and by how much Tekna is better. Further work needed to complete assessment.

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Process (continued)

Additive Materials - Production of metal Additive Manufacturing powder

Relevant for Revenue, OPEX and CAPEX

Tekna produces metal powders for Additive manufacturing (“AM”) that significantly reduce the metal consumption in the manufacturing of parts in downstream processes. The transformation of metals by traditional means such as machining and casting is a power and emission intensive process and hence the production of additive manufacturing powder reduces GHG emissions compared to conventional production methods. All metals for Additive manufacturing (titanium, aluminum alloys, nickel alloys, tungsten and tantalum) that Tekna produces are considered relevant in this category.

Better energy performance downstream: In the application of AM parts in aeroplanes and vehicles parts are usually lighter and therefore more energy efficient (less weight, less fuel consumption).

Some third-party verification could become available for titanium based on AMGTA (Additive Manufacturing Green Trade Association) Life Cycle Assessment study which should be published in Q1 2023.

Supply chain (simplified): Ingot to bar to wire to powder

Continuous production, no consumable parts in production. Wire production waste is not travelling.

Alignment consideration: We lack understanding on the consumption of resources in other processes and the emissions thereof. The better quality of Tekna powder and therefore the downstream potential in terms of the complexity of parts that can be reliably produced, saving more material downstream, is complex to establish.

Microelectronics

Relevant for OPEX and CAPEX

With its nano-sized materials Tekna enables electrification through MLCC (downsizing electrical components).

The nickel nano powders produced by the Group are used in the manufacturing of Multi-Layer Ceramic Capacitors (MLCC) which are small devices that come in various sizes and are used in electronic circuit of any object. As electronic devices get increasingly smaller and more complex, the size of MLCCs is decreasing. MLCCs are used in hundreds inside household products, in thousands inside cell phones and in tens of thousands inside autonomous vehicles. The new emerging size standard of interest to the Company is 0201M which is smaller than 1 mm. The nickel nano powders produced by the Group are used in the manufacturing of these MLCCs. In addition, the Company is developing the nano powder generation for MLCCs that will follow the 0201M generation.

When compared with larger body size (0402) MLCC devices, less material resources (nano nickel) is needed to produce a smaller body size 0201 MLCC, where the capacity of the MLCC is equal or higher.

Alignment consideration: best performing alternative: could be a chemical process, which we have little knowledge off (process or supply chain). Considerations of workers safety and environmental risks seem relevant.

Energy Storage

Relevant for CAPEX

With its nano-sized silicon material Tekna enables electrification through Lithium-ion Batteries (“LiB”)

Silicon can hold 10x more energy than graphite which means higher charge density and longer driving range (EVs). Furthermore, it is Tekna’s aim to develop materials for batteries that will be able to handle 10x more charging cycles resulting in longer battery lifetime, and improved energy density reduces battery weight. One challenge when replacing graphite with silicon powder in the battery anodes, is that silicon traditionally has experienced swelling and expansion. The solution to avoiding this effect, is to shrink the powder dimensions to nanometre scale. This is where Tekna’s production process is unique. The low-cost nature of the production process increases the attractiveness of Tekna’s silicon powders further.

Alignment consideration: the best performing alternative could not be exploiting the full potential of the material because of the Particle Size Distribution. Unknowns also here in terms of GHG emissions in the supply chain and production.

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Quantitative reporting, calculation of KPIs

The total company values for the three KPIs are calculated in accordance with the EU Taxonomy's definitions. It is to be expected that there are deviations compared to Tekna Holding ASA regular financial reporting particularly for Capital Expenditure ("CAPEX") and Operating Expense ("OPEX").

Revenues

The total revenues match with the financial reporting. Spare parts and other revenues have been deemed not eligible, whereas the Systems and Materials businesses have been considered eligible.

We adjusted the eligible revenues for 2021 down to 95% from previously reported 96% due to a better understanding of what revenues are in accordance with EU taxonomy.

Operating Expense ("OPEX")

The OPEX were adjusted with extraordinary, adjusted expenses such as legal fees and the Tekna Holding ASA parent company OPEX.

Capital Expenditure ("CAPEX")

Nearly all CAPEX is for the materials business, which includes a large part of R&D.

Conclusion and next steps

Tekna is well prepared to report on EU taxonomy Alignment starting 2023. We look forward to benchmark particularly the interpretation on certain criteria and specifically on how the third-party verification requirement is completed. In the assessment process to date, we have learned much about the EU Taxonomy and how we are positioned.

In order to prepare reporting for 2023, the following steps will be taken:

- Control and validate reported 2022 shares for eligible activities
- Alignment assessment and report on alignment in 2023 report
- Evaluate the strategic opportunity to increase the share of eligible and aligned activities.

Tekna Holding ASA	EU taxonomy: 3.6. Manufacture of other low carbon technologies (Climate Change Mitigation)					
	total		eligible		aligned	
(excluding JV: Imphytek Powders)	2022	2021	2022	2021	2022	2021
M CAD						
Revenue	26.889	26.810	25.147	25.423		
OPEX	44.383	36.027	40.268	31.720		
CAPEX	6.124	3.636	6.124	3.636		
%						
Revenue			93.5%	94.8%		
OPEX			90.7%	88.0%		
CAPEX			100.0%	100.0%		

About Tekna

Tekna is a global leader in the development, manufacturing and sales of advanced micron and nano powders as well as plasma process solutions.

Since we started in 1990, Tekna has developed a unique and proprietary plasma technology platform for manufacturing micro and nano sized powders for a range of industries. Our business model relies on two revenue streams, both with synergistic effects:

- Development and sale of plasma systems: We develop and sell plasma systems customized for the purpose of research and development.
- Development and sale of advanced powders: We develop and operate our own proprietary plasma processes to produce and sell spherical powders and nano powders.

Tekna's is developing the position of its advanced materials in three multi-billion-dollar market verticals. 

Tekna is headquartered in Québec, Canada, and has additional offices in France, China, Korea, USA, and seven distributors operating globally (Europe, Asia and North America).



Additive Manufacturing:

Currently our fastest growing segment. Tekna enjoys an estimated 19 per cent market share, up by 6 per cent on main selling products. This global market is on track to outperform, in terms of growth, traditional machining due to improved environmental efficiency, for instance through resource efficiency and speed of availability of parts.

Microelectronics:

We aim to secure industrial scale supply to global tier 1 customers in the microelectronics industry. Nano powders below 100 nm are expected to become the new industry standard for high-end MLCC devices, and Tekna is one of only three producers that can deliver this.

Energy Storage:

Tekna has developed and patented its industrial process to produce high purity spherical silicon nano powder. Nano silicon used in rechargeable batteries could provide electric vehicles with 60 per cent more distance travelled on a single charge. Important industries for our powders are: batteries, electronics, medical, automotive, aerospace and satellites.

Systems | PlasmaSonic:

In the systems business we launched the PlasmaSonic Product line. This wind tunnel simulates hypersonic conditions to enable research for for instance space tourism.



Founded in 1990



Tekna Holding ASA listed in OSLO 2022

carbon neutral



Aspiration 2030



Headquartered in Sherbrooke, QC, Canada



216 employees



90 active patents



3 manufacturing and research centers



7 subsidiaries



1 joint venture

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 **TEKNA**