ATEA SUSTAINABILITY FOCUS

Report to Responsible Business Alliance

FEBRUARY 2021

SUMMARY

How to speed up the sustainable transformation

THE GLOBAL GOALS

Agenda 2030 was established by the United Nation as a universal call to action to end poverty and set the world on a path of peace, prosperity and opportunity for all on a healthy planet. The agenda consists of 17 Sustainable Development Goals (SDGs) and 169 underlying targets to be achieved by the end of this decade. It has been adopted by all UN member states.

The ASF Advisory Board consists of representatives from leading public and private companies with a background in IT, sustainability or purchasing. Over the last few years, the Board has issued three reports: on Transparency, Circular Economy and Closing the Loop on Materials. The goal is to provide the industry with valuable insights into the expectations of the Nordic market and recommendations on how to address urgent issues.

The IT industry is a game-changing enabler for a sustainable future. Digital solutions offer possibilities that help fulfill the UN Sustainability Goals in several sectors. It's unarguably a positive development and also a fact that presupposes that the industry itself becomes more sustainable. The question is; what does the industry need to do to speed up its own sustainable transformation?

Atea Sustainability Focus (ASF) is an initiative that consolidates the voices of the Nordic IT buyers on how the IT industry meets the expectations on important sustainability issues, and how that connects to the 2030 Agenda. The initiative provides the industry with valuable insights into the expectations of the Nordic market and recommendations on how to address urgent issues.

A race against time

This year's report concludes that we are not moving fast enough. We are in a race against time to fulfill the Sustainable Development Goals by 2030 and the sustainability performance of the IT industry needs to accelerate. In order to succeed there is an urge for a collaborative effort from all stakeholders.

Invitation to dialogue

To help achieve results faster, the ASF Advisory Board invites the industry's sustainability coalition Responsible Business Alliance (RBA) as well as leading IT brands to a series of dialogues, beginning in the spring of 2021.

The dialogues should result in

1. New business models that favor circularity, focusing initially on closing the loop on materials and increasing product lifespan.
2. A platform for circular design that defines best practices for industry and buyers.
3. Transparent information to buyers about progress in circular design, materials reuse and reparability/ modularity among others, including auditable circular-economy code provisions.
4. Adaptation of existing standards for circularity to fit them to the challenges of the industry.
5. A common understanding of what is important from an impact perspective translated into science-based sustainability requirements that can be included in the tender process.

The dialogue invitation was formulated during a two-day ASF Advisory Board meeting in November 2020. The meeting included a briefing on the stakeholder dialogues, industry analysis and on the sustainability, progress made so far by the IT industry. The Advisory Board had profound discussions that covered a wide range of perspectives, insights, and assessments before deciding on the final statement to the RBA.

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PURPOSE OF THIS REPORT

Buyers act for speedier transition

Nordic IT buyers have communicated their sustainability preferences to the industry through the Atea Sustainability Focus platform since 2017. The initiative has harnessed the power of a united voice, and provided the industry with valuable intelligence and actionable recommendations from its most important stakeholders: the buyers.

This is the fourth report we hand over to the Responsible Business Alliance (RBA) who unites the sustainability work of the industry. Like its predecessors, the report is the result of a solid effort: from survey and research all the way through to the extraordinary work of the ASF Advisory Board. It fills me with great pride to see the engagement from the Nordic IT buyers and how the industry has embraced the ASF and the recommendations. It is clear that the ASF brings about change (as shown in the section "Follow up on previous reports"). It is just as clear though that we are not moving fast enough. At a time when we are battling a pandemic while the clock toward 2030 is ticking, all hands need to be on deck. Even though collaboration is the single most prescribed cure for sustainable development (there is after all an entire SDG devoted to it), commitment is rarely its companion. The buyers see this. In last year's report *Closing the Loop on materials*, the buyers asked that the industry responded with recommendations on how they can contribute to circular and climate-neutral IT.

The industry sees it, too. During the Advisory Board meeting in 2019, buyers were challenged to turn their preferences into actions by incorporating them into procurement practices.

The buyers rose to the challenge. At the 2019 meeting eleven members of the Advisory Board, that represent some of the largest and most influential organizations in the Nordics, created a manifesto stating their will to increase the weight of sustainability in procurement of IT products and to share best practices with each other. ASF Leadership for Change was born, and now they invite others to join.

The industry needs to know that there is a market for sustainable solutions and products. And buyers need to know what actually gives effect. This report marks a first important step. Instead of presenting a new focus and new recommendations to the industry, the Advisory Board extends a hand and says let us do this together. The report takes a holistic approach to what has been done so far and to what extent the IT industry is contributing to the SDG:s that are to be fulfilled by 2030. It is an invitation to sit down together to define actions, shake hands and get moving.

ASF aims to bring stakeholders together. Whether you are an IT buyer, represent the industry or in any way influence manufacturing and procurement of IT, I hope you will take the time to read this report and reflect on what you can do and who you can reach out to in order to speed up the change. I am certain that we see the dawning of something truly magnificent.

Camilla Cederquist,
Atea Sustainability Focus
project manager

The ASF process

Stakeholder dialogue
Nordic IT buyers identify key sustainability aspects through an online survey and offline dialogues.

Industry analysis
Sustainability experts conduct an industry analysis to identify how the industry performs on the aspects identified by the buyers.

Recommendations
The ASF Advisory Board, comprised of leading IT and sustainability professionals from Nordic companies, municipalities and organizations, formulates concrete recommendations.

Handover to the industry
RBA and its member companies decide on specific activities to implement the recommendations from the ASF Advisory Board.

FOLLOW UP ON PREVIOUS REPORTS

Stronger focus on circular economy

An important part of the Atea Sustainability Focus (ASF) is to follow up on how the reports are received and processed by the Responsible Business Alliance (RBA) and leading members. As one of the most influential actors within IT sustainability, RBA that organizes and coordinates the joint sustainability work of the largest IT brands and many of their sub-suppliers, is an obvious and dedicated recipient of the ASF reports. Hence the follow up includes dialogues with RBA as well as representatives from leading brands.

This summary is based on discussions with RBA's European Director Bart Devos and Senior Environmental Manager Daniel Reed during the Advisory Board meeting in November of 2020. Insightful input has also been given to the Advisory Board from RBA's Executive Director Rob Lederer. Other contributions of great value was shared by representatives from three leading brands through Madeleine Bergrahm, HP; Mateo Dugand, HPE, and Louise Koch, Dell Technologies.

Atea Sustainability Focus – Report 2018

Atea Sustainability Focus – Report 2019

Atea Sustainability Focus – Report 2020

"Proactive suppliers that are willing to listen to buyers and hence act in accordance are crucial for our common work towards sustainability and in order to reach Agenda 2030. The way RBA has responded to our report gives hope for a future circular and carbon neutral IT industry. RBA is a role model for other industries to follow."

Peter Nohrstedt, Head of Sustainability at SKL Kommentus and member of the ASF Advisory Board

Transparency & buyer engagement

The first ASF-report *Transparency – A prerequisite for sustainable development* was published in 2018. The topic is equally relevant today, and it is gratifying to follow the continued implementation of the RBA Guide to Transparency in Procurement that was published in 2019. The guide has been translated into several languages. Furthermore, a toolkit to advance reporting on modern slavery was developed in collaboration with Global Reporting Initiative (GRI). RBA has also increased its efforts to engage with buyers. The most concrete step is the opening of a European office in Brussels which, according to the RBA, is "a statement to public buyers about the importance of our work in Europe" and a possibility to engage buyers more frequently. Other plans include a public procurement newsletter and establishing a Responsible Procurement Advisory Committee that will help guide the work of the organization.

Circular economy & Closing the loop on materials

In 2019 and 2020 the ASF reports focused on *Circular economy* and *Closing the loop on materials*. At the beginning of 2020 RBA made public its vision and mission for circular economy (see fact box). The scope is limited to circular material flows and reverse supply chain issues, such as recycling and material sourcing, where the organization believes it can create most meaningful impact. In response to the ASF report on closing the loop on materials, RBA writes:

"The need to create responsibly recycled and recovered materials and components for reintegration into supply chains is a significant obstacle that the RBA believes it has the expertise, resources, and industry engagement to resolve."

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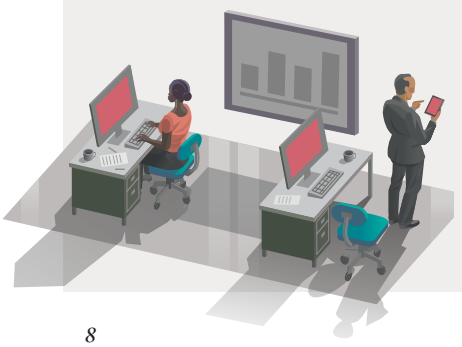
I’m glad to know that the RBA has accelerated its efforts to engage with buyers, I believe such cooperation will be crucial in order for us to achieve our common visions for a sustainable, circular and carbon neutral IT industry. The circular electronics partnership and its roadmap is a positive step towards closing the loop on materials, although I hope there will be significant action taken already long before 2030. I look forward to what the brands are developing in terms of new business models that promote longer lifespans of products, other than as a service-models that have already existed for some time. Using the devices longer is one of the most important things we need to do, however, neither the buyers nor the industry can achieve this alone but it is a perfect vision to collaborate around.”

Josefin Levander, Sustainable IT at City of Malmö and member of the ASF Advisory Board



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“As always, we are grateful for the collaboration between the ASF Board and the RBA and we look forward to future recommendations.”

Rob Lederer, Executive Director of the Responsible Business Alliance

RBA’s focus for circular economy:

- E-waste, both recycling of existing e-waste and measures to design waste out of the system.
- Standardization of data and reporting requests: bridging the gap between the recycling industry and the IT industry.
- Circular supply chain design: communicate these benefits and reasons to engage.
- Labor conditions both in formal and informal recycling sector: greater assurance to responsible practices.

An industry-wide survey to identify obstacles and possible solutions was conducted during the year, which the RBA will follow up with multi-stakeholder workshops to implement priority areas.

For the areas that the RBA at the moment is not focusing on, such as circular design, the coalition seeks to form partnerships. One example is the Circular Electronics Partnership, where the RBA is one of the founding partners. The multi-stakeholder partnership has developed a vision and a roadmap for a circular electronics industry by 2030, in accordance with the over-arching recommendation of the 2019 ASF report.

Brands want to look into new business models

In the discussion with Dell Technologies, HP and HPE, the brands all stressed the relevance of the ASF reports to their work. Closing the loop on materials is high on their agendas with take-back activities and recycled contents; however they would rather zoom out the discussion and work on new business models that promote longer lifespans of products, and by that, materials. One example is service-models that can boost take-back rates.

RBA’s vision and mission for circularity

Vision: An integrated international supply chain that supports circular material use and protects human rights and the environment.

Mission: Convene members, suppliers, and stakeholders within forward and reverse supply chains to advance circular material use through joint initiatives that enable greater transparency into practices and measurement of material movements; advance supply chain capacity and networks for extended material viability and use; and drive responsible business conduct throughout circular material value chains.

Focus areas:

- Data Standardization
- Supply Chain Design
- Greater Assurance

STAKEHOLDER DIALOGUE

Nordic IT buyers want collective action and products that last longer

The recommendations to the IT industry are based on the preferences of the Nordic IT buyers, and were collected through an online survey as well as in-depth interviews. Respondents were asked to describe what industry measures they believe are most prioritized in regards to 1) more sustainable products, 2) more sustainable production and 3) sustainable development through international collaboration. They were also asked to specify what their own organizations can do to contribute to more sustainable IT.

If the lifespan of all laptops in the EU were increased by one year, it would decrease the CO_2 emissions with around 1,6 megatons, equal to taking 870 000 cars off the road for one year.[17]

Longer lifespan
For more sustainable products, Nordic IT buyers believe it is most important to extend product lifespan. This was also emphasized during in-depth interviews where it became clear that customers believe that increased longevity meets a number of other sustainability aspects, since fewer products need to be produced, transported and handled end-of-life.

Recycled rather than re-used
A bit contradictory is the fact that the respondents don't seem to value their own contribution to product lifespan. Respondents rank "Demand recycled content in new products" higher than "Circulate equipment internally", "Buy certified equipment" and "Use IT as a service" when asked about what they can do to contribute to more sustainable IT. The interest for buying pre-used equipment also remains low (9 %).

Reduced GHG emissions
An interesting gap is the fact that many respondents want to see products with low carbon footprint (22 %) but only 10 per cent prioritize reducing GHG emissions in production. It could be that buyers are unaware of the climate impact of the production of IT, even though 63 per cent say that contributing to the organization's climate and environmental targets is a priority when procuring IT.

Reinforced social regulations
Social issues rank quite low overall; however, when asked what the industry should focus on to contribute to a more sustainable production, buyers said they want the industry to use its combined influence to reinforce social and environmental regulations in countries where they operate. This also reflects a desire expressed in interviews to see more collective action.

Evaluation difficulties
The buyers list two main challenges for prioritizing sustainability in procurement of IT; difficulties to determine the effects of sustainable procurement and difficulties to compare and evaluate the sustainability performance of manufacturers, products and solutions. In interviews respondents expressed that they need more guidance on how to make sustainable choices and that the industry could provide more information on climate performance and expected product lifespan.

The typical respondent:
- IT decision maker
- From a large organization (500+)
- 50 % from public and 45 % private

59 % say sustainability is of high or very high priority when procuring IT (same level as 2019)

33 % believe the industry does a good or very good job with sustainability (2019: less than 20 %)

49 % say producing a strategy for sustainable IT is their no 1 alternative for contributing to more sustainable IT management

What do you feel the industry should be focusing on in the next few years to contribute to …

More results from the stakeholder dialogue can be found in the Appendix available in the digital version.

… sustainable products?
1. Products with longer lifespans (31 %)
2. Products with low climate footprint (22 %)
3. Circular design (21 %)

… sustainable production?
1. Reduce the environmental impact from production (30 %)
2. Map out and publish compliance with international guidelines (23 %)
3. Increase proportion of sustainable minerals in the production chain (22 %)

… sustainable development through collaboration?
1. Use combined influence to reinforce social and environmental regulations in the countries where they operate (27 %)
2. Standardization of materials that can be recycled/recovered (20 %)
3. Promote collaboration between actors to enable circular business models (18 %)

RECOMMENDATIONS TO THE
RESPONSIBLE BUSINESS ALLIANCE

Faster, together!

We are in the decade of action, with only ten years to achieve the Sustainability Development Goals, and we need to move faster.

Over the last few years, we – the ASF Advisory Board – have articulated the ambition of the Nordic IT buyers to see a circular, carbon-neutral IT industry by 2050. We have issued three reports: on Transparency, Circular Economy and Closing the Loop on Materials.

We realize that this is a massive transformation, a paradigm shift for the industry that requires addressing systemic barriers. The RBA and its leading members have taken important steps towards this end goal, but we feel that we collectively are not moving fast enough.

This year, we revisited previous reports and found unresolved issues that are important to Nordic buyers, such as standardization and reuse of materials, design for longer lifespans, reduced carbon footprints and new business models to support that.

The industry needs to step up, but so do we as buyers. We have a responsibility to find ways that take our recommendations to the industry forward.

Therefore, we adopt a new approach. This year we will not formulate new recommendations. Instead we invite the Responsible Business Alliance (RBA) and leading brands to dialogue about how we together can speed up the transformation.

We want this dialogue to result in

- New business models that favor circularity, focusing initially on closing the loop on materials and increasing product lifespan.
- A platform for circular design that defines best practices for industry and buyers.
- Transparent information to buyers about progress in circular design, materials reuse and reparability/modularity among others, including auditable circular-economy code provisions.
- Adaptation of existing standards for circularity to fit them to the challenges of the industry.
- A common understanding of what is important from an impact perspective translated into science-based sustainability requirements that can be included in the tender process.

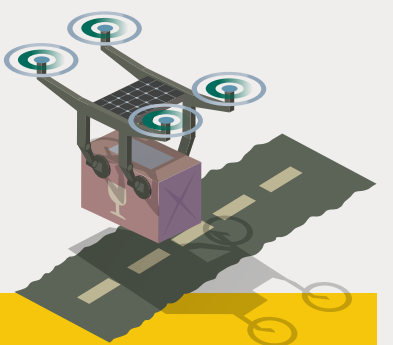
Short-term deliverable

Within two years, we see that these dialogues have resulted in a common roadmap stating what is required by each actor of the value chain (buyers, individual companies and the industry as a whole) to achieve a circular and climate-neutral it-industry – as well as a plan for regular follow up on progress.

What do we bring?

We bring ASF Leadership for Change, where we take responsibility for the enormous power that our requirements have on creating necessary market conditions for change. Through this initiative, we commit to increase the weight of sustainability in purchasing decisions and to actively learn from each other how to set truly effective sustainability requirements. In addition, we bring a broad knowledge of how industry measures take effect in the real usage environment.

As a first step, we invite the RBA and leading brands to a launch of this report and initial dialogue in the Spring of 2021.



Members of the ASF Advisory Board

Annika Ramsköld, Vattenfall
Catarina Paulson, Alfa Laval
Erik Nilsson, H&M
Eva Listi, Systembolaget
Francesca Accerbi, Orkla
Josefin Levander, City of Malmö
Maria Færgemann Eg, Nordea
Markus Bylund, City of Uppsala
Mette Nygård Havre, Fjordkraft
Pernilla Bergmark, Ericsson
Per-Ola Ostréus, Tetra Pak
Peter Nohrstedt, SKL Kommentus
Åsa-Pia Folkesdotter, Ikea

SHORT VERSION

Industry analysis

This analysis provides insights on how the IT industry is meeting the expectations of the IT buyers on important sustainability issues, and by extension, how that connects to the 2030 Agenda. It assesses the priorities of the Nordic IT buyers and the recommendations of previous ASF reports and maps them to relevant SDGs, which paints a picture of what has been accomplished so far and what needs to be done going forward.

The mapping identified a convergence between what the Nordic IT buyers consider most urgent for a sustainable development of the IT industry, and certain targets under SDG12, *Responsible consumption and production*, and SDG13, *Climate action*. The industry's current contribution to these targets is considered to be quite moderate, ranging from low to medium (see Table 1). However, if all recommendations put forward in the previous ASF reports were to be addressed, the industry would take significant steps towards circularity and transparency and by that increase its contribution to the fulfilment of the 2030 Agenda.

Environmental and climate-related challenges

Nordic IT buyers stress issues related to consumption of natural resources, waste and emission of greenhouse gases. A quick overview of these issues related to the IT industry indicates several challenges that need to be overcome in order to reach a sustainable manufacturing of IT products.

Depletion of finite resources

Global natural resource consumption is estimated to more than double between 2011 and 2060, and while the IT Industry is less material intense than many other industries, it still relies heavily on metals and minerals.[1] The IT industry is driving the depletion of several finite resources, such as tantalum, palladium and platinum, which are projected to run out in a not too distant future.[2] The global consumption of metals, from all industries, is estimated to increase from 8 gigaton to 20 gigaton between 2011 and 2060.[3] The extraction process for raw materials is also environmentally challenging.[4] For example, the production of a laptop approximately generates 1,2 metric tons of mining waste.[5]

Increasing e-waste and inadequate recycling

The amount of e-waste is increasing faster than projected, reaching 53,6 million metric tons in 2019.[6] This is driven by increased consumption of IT products and other electrical equipment, shorter lifespans of products and few repair options. Out of that e-waste, only around 20 per cent is documented to be properly recycled. The rest has no documented waste treatment.[5]

Longer laptop use for less CO_2 emissions

The most greenhouse gas emissions are emitted in the non-use phase of IT products,[7] with emissions ranging between 52–79 per cent of the entire IT product lifecycle. If the lifespan of all laptops in the EU were increased by one year, it would decrease the CO2 emissions with around 1,6 megatons, equal to taking 870 000 cars off the road for one year.[8] This could also decrease the use of finite resources in the manufacturing of new products and decrease the generation of waste.

Result

The mapping was conducted in three steps. The first step was to map how the Nordic IT buyers prioritize the SDG targets under SDG12 *Responsible consumption and production* and 13 *Climate Action*. These goals were selected for their specific relevance to the IT industry. SDG12 encompasses the topics of transparency and circular economy, which have been the main focuses of the previous reports. The selection of the SDG13 is based on the acknowledgement of climate change as the determining challenge of the 21st century.

In step two, the targets considered to be of high relevance to the Nordic IT buyers were mapped against previous recommendations and the RBA's response. Finally, in part three, subject experts gave their view on the industry's current efforts.

The findings of this analysis suggest that dedicated efforts to address the sustainability priorities of the Nordic IT buyers and implement the recommendations of the ASF Advisory Board could create positive synergy effects to the industry's contribution to the 2030 Agenda.

[1] OECD, 2018.
[2] Circlar computing, 2019.
[3] OECD, 2018.
[4] Laurenti & Stenmarck, 2015.
[5] Laurenti & Stenmarck, 2015.
[6] Global E-waste Monitor.
[7] EBB, 2019, TCO, 2020.
[8] EBB, 2019.

Table 1. The IT industry's assessed fulfillment of the Nordic IT buyers' expectations on the sustainability issues and current contribution to the SDG targets identified as being of high importance (fulfillment and contribution graded as low, medium or high).

SDG Targets	Assessment	Description (Mapping of the previous industry analyses of 2018, 2019, 2020 to the SDGs)
Target 12.2. Sustainable management and use of natural resources	Low	There has been an increase in stakeholders' expectations and regulatory pressure on achieving a more efficient use of natural resources and reduced environmental impact, to be achieved through the implementation of circular-economy principles. The manufacturing of IT products comes with a heavy environmental toll due to the large outtake of natural resources, such as minerals and metals. Reduced environmental impact from manufacturing is considered a main priority of the Nordic IT buyers. Brands are taking measures to increase the use of recycled contents in their products and several of the large actors have joined The Circular Electronics Partnership aiming for a circular electronics industry by 2030; however there is a knowledge gap of the actual performance of brands and manufacturers regarding resource efficiency in the manufacturing of IT products and the resulting environmental impact. There are some positive signs that the lifespan of IT products is starting to increase, but it is unclear if this lifespan increase is driven by the IT industry or by a change in customer behavior. At the same time, accusations of planned obsolescence and costly product repairs show a contradictory reality. Despite the positive indications of a move towards more sustainable manufacturing processes, the current contribution of the IT industry to SDG target 12.2 and the fulfillment of the Nordic IT buyers' expectations is assessed as low. There is still a long way to go and more tangible action must be undertaken. If the IT industry were to meet the expectations of stakeholders and regulatory bodies, it could increase the IT industry's contribution to SDG target 12.2.
Target 12.4. Responsible management of chemicals and waste and Target 12.5. Substantially reduce waste generation	Low	Waste is a rapidly increasing problem in the IT industry that needs to be addressed with urgent measures. E-waste consists of a variety of materials and finite resources, including precious metals and minerals. Neglecting to properly recycle these has a dual impact: the contamination of landfills and local ecosystems where the disposal takes place, and the continuous need to mine and extract primary resources elsewhere. Since the issue of e-waste only has become greater during recent years, the IT industry's contribution to these SDG targets and fulfillment of the IT buyers' expectations is assessed to be low. For the industry to increase its contribution to SDG target 12.4, products must be designed for circularity, including recycling, and incentives need to be implemented to drive this change. *Chemicals has not been addressed to any larger extent in the previous ASF reports, even though it may be relevant to do so.*
Target 12.6. Encourage companies to adopt sustainable and sustainability reporting	Medium	Many companies operating in the IT industry publish sustainability reports on an annual basis, communicating their governance of and performance on sustainability in their own operations and in their supply chains. However, there is still work to be done to make it easier to compare different companies' governance structures and performance. There has been some progress on the issue of transparency in recent years, but there is still room for improvement to meet buyers' expectations and to perform in line with this SDG target. Hence the IT industry's contribution is assessed to be medium. Increasing transparency in the industry with regards to challenges such as climate impact, resource use and human rights, enables the IT industry to contribute to SDG target 12.6.
Target 13.2. Integrate climate change measures into policies and planning.	Medium	There are indications that the global GHG emissions from the IT industry has levelled off in recent years. However, more needs to be done if the industry is to half its GHG emissions by 2030, in accordance with the Paris Agreement, and to contribute to the SDG target 13.2. The curve of GHG emissions still need to decrease. The IT industry's contribution to these SDG targets and the fulfilment of the IT buyers' expectations is assessed to be medium. Efforts need to be directed towards decreasing the GHG emissions in the brands' value chain, outside their own operations, since it is where the most GHG emissions are emitted.

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Brands should review their procurement practices, including expected lead times and the prices they are willing to pay their suppliers, in order to create the structural conditions that permit positive change in the supply chain. These are insights that can be threatening to brands as they evaluate themselves, yet cannot be overlooked. Even though this specific observation regards the topics of human rights and labor rights, it can be translated to the topics of environmental performance and anti-corruption.

(From the interview with Caroline Rees, CEO and president at Shift)

Expert interviews

Industry experts interviewed for the industry analysis highlighted that, even though the sustainability maturity of the IT brands has increased considerably over time, there is a need to engage with structural issues in order to create lasting, sustainable change in the IT supply chain. For example, brands are considered to place too much weight on supply chain audits when it comes to addressing sustainability issues. It is argued that some business models must be altered if sustainable change is to be achieved.

Need for recycling infrastructure

The current emphasis on short lead times and low prices makes it untenable for suppliers to improve the working conditions at their facilities, or to change the environmental management system. If we are to make the transition to a circular economy, another key point to take out of the industry analysis is the need for sufficient and fit for purpose recycling infrastructure.

Further, the largest climate impact lies in scope 3, outside of the brands' operations. Switching from fossil fuels to renewable energy is the action that would yield the greatest positive impact. To succeed with the transformation towards a climate-neutral industry it is crucial to set ambitious emission reduction targets and a strategy to achieve them. It is equally important to communicate that strategy and the progress made, and to do this in collaboration with the suppliers.

Move to hands-on actions

These examples indicate the need to quickly accelerate and move from having the right governing documents in place – Code of Conducts, Supplier Code of Conducts, sustainability policies and guidelines – to hands-on actions that will create tangible change. The industry experts also underline the need for more and improved data, which will be of benefit to many stakeholders throughout the value chain. With access to more aggregated data, IT buyers and other stakeholders would be able to better assess the sustainability performance of the IT industry in general and certain suppliers in particular.

The full industry analysis can be found in the Appendix available in the digital version.

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Stephens also highlighted the importance of co-operation when it comes to creating change in the supply chains, arguing that if many brands go together to put pressure on their shared suppliers, that will have an impact.

(From the interview with Andie Stephens, Associate Director of Carbon Trust)

ASF LEADERSHIP FOR CHANGE

Buyers unite to speed up transformation

The Atea Sustainability Focus (ASF) is a powerful message from the Nordic IT buyers to the global IT industry on how they believe the industry should advance its work on sustainability.

Last year, the members of the Advisory Board were challenged by the industry to demonstrate their commitment even more clearly by weighing sustainability into their procurement decisions. The buyers recognized that to create more impact they need to take more responsibility for their choices, and they need to do it together. ASF Leadership for Change was born.

Mutual manifesto

The initiative is centered on a manifesto that all members publicly commit to. The manifesto states that members should increase the weight of sustainability in procurement, be transparent to the industry about their sustainability agenda and align their procurement practices around sustainability issues material to the industry and existing standards. Aspects weighed in are:

- Respect for human rights in line with the UN Guiding Principles.
- Design for minimal use of materials, for minimal use of virgin materials and for a high amount of recycled and renewable materials and components.
- Measures to prolong the operating lifetime of materials and products.
- Actively contribute to achieve the 1.5-degree target.

Share of best practice

By uniting and agreeing on sustainability principles for procurement, buyers create a market opportunity for the IT industry to accelerate its sustainability transformation. Central to the initiative is also a learning academy where members share best practices in order to identify and adopt effective methods. This will be established through regular dialogue with the industry, which also will be key for continuously raising the bar.

ASF Leadership for Change is open to any Nordic organization that is ready to demonstrate leadership in sustainable IT.
atea.se/asfleaders

Conclusion

Increased dialogue for progress

For the fourth year in a row, the opinions of the Nordic IT buyers have been consolidated to set the sustainability agenda for the IT industry, through the Atea Sustainability Focus initiative. The Advisory Board, representing some of the largest Nordic IT buyers, has identified that working collaboratively and at a higher speed is crucial to make the IT industry more sustainable in time to reach the internationally set ambitions. To be able to support the industry – and to develop better tools for sustainable procurement and management of IT – the Advisory Board invites the RBA and leading brands to a series of dialogues starting in the spring of 2021. This will help both buyers and the IT industry to identify and address the main issues that are hindering real progress.

The need to work faster, together

This report gives an account of the impact the ASF initiative has had so far in the context of the 2030 Agenda. The progress made on transparency, circular economy and closing the loop of materials has been summarized, showing that the IT buyers' requirements and expectations does in fact drive the sustainability progress in the IT industry. This shows that speaking with one voice helps make demands clearer. It supports the IT industry in its efforts towards becoming more sustainable. To overcome the challenges that lie ahead and make real progress, we as actors in the value chain of the IT industry, need to work faster, together!

FULL VERSION

Appendix – Industry analysis

The purpose of this analysis is to gain insights on how the IT industry is meeting the expectations of the IT buyers on important sustainability issues, and by extension, how that connects to the 2030 Agenda. In this decade of action we need to use the remaining years to act.

The Industry analysis investigates the priorities of the Nordic IT buyers and the recommendations of previous ASF reports (on transparency, circular economy and closing the loop on materials), and map them to relevant SDGs. This also ties the results of the previous ASF reports together, paints a picture of what has been accomplished so far and what needs to be done going forward.

The mapping identified a convergence between what the Nordic IT buyers consider important for sustainable IT products, and the targets under SDG12, *Responsible consumption and production*, and SDG13, *Climate action*. The current contribution of the IT

Table 1. A consolidated view of the result

Sustainable development goal (SDG)	Selected SDG targets under SDG12 and SDG13	Assessed relevance for IT buyers	Assessed contribution of the IT industry
SDG 12. Ensure Sustainable consumption and production patterns	Target 12.2. Sustainable management and use of natural resources	High	Low
SDG 12. Ensure Sustainable consumption and production patterns	Target 12.4. Responsible management of chemicals and waste	High	Low
SDG 12. Ensure Sustainable consumption and production patterns	Target 12.5. Substantially reduce waste generation	High	Low
SDG 12. Ensure Sustainable consumption and production patterns	Target 12.6. Encourage companies to adopt sustainable practices and sustainability reporting	High	Medium
SDG 13. Take urgent action to combat climate change and its impacts	Target 13.2. Integrate climate change measures into policies and planning	High	Medium
SDG 12. Ensure Sustainable consumption and production patterns	Target 12.1. Implement the 10-year sustainable consumption and production framework	Medium	Not assessed
SDG 12. Ensure Sustainable consumption and production patterns	Target 12.7. Promote sustainable public procurement practices	Medium	Not assessed
SDG 12. Ensure Sustainable consumption and production patterns	Target 12.8. Promote universal understanding of sustainable lifestyles	Low	Not assessed
SDG 13. Take urgent action to combat climate change and its impacts	Target 13.1. Strengthen resilience and adaptive capacity to climate related disasters	Low	Not assessed
SDG 13. Take urgent action to combat climate change and its impacts	Target 13.3. Build knowledge and capacity to meet climate change	Low	Not assessed
SDG 12. Ensure Sustainable consumption and production patterns	Target 12.3. Halve global per capita food waste	N/A	Not assessed

industry to the targets under SDG12 and SDG13 is considered to be quite moderate, ranging from low to medium. However, if all recommendations put forward in the previous ASF reports were to be addressed, the industry would take significant steps towards circularity and transparency and by that increase its contribution to the fulfilment of the 2030 Agenda.

Background

The 2021 ASF report industry analysis has been conducted by the sustainability consultancy firm Ethos International. The analysis is based on the results of the stakeholder dialogue, showing which sustainability issues the IT industry should prioritize according to the Nordic IT buyers. The decade between 2020 and 2030 has been named the "decade of action" to fulfill the 2030 Agenda and the 17 Sustainable Development Goals. Considering this, and the need for universal participation, the 2021 ASF report investigates how the Responsible Business Alliance (RBA) and its members could address the priorities of the Nordic IT buyers and consequently contribute to the 2030 Agenda. The analysis focuses on SDG12 on Sustainable production and consumption, and the SDG13 on Climate action, since they are connected to the focuses in the previous ASF reports. For more information on why they were selected, please see the section on Structure, method and content.

The purpose of the analysis is to:

- Identify what the IT industry is doing on sustainability issues important to the Nordic IT buyers and the gap between the industry's performance and the IT buyers' expectations on those issues.
- Identify areas where the Nordic IT buyers' priorities on sustainability in the IT industry converge with targets of the Sustainable Development Goals (the SDGs) 12 and 13.
- Assess the current contribution of the IT industry to the SDG12 and SDG13 and identify areas where more action is needed in order to increase the industry's contribution to the fulfilment of these targets.
- Further, the industry analysis can be used to identify how working with the SDGs can create sustainable business opportunities for the IT industry, leading to positive synergy effects for sustainable development and sustainable businesses alike.

Environmental and climate-related challenges

The environmental issues of the IT industry are closely linked to the use of natural resources in manufacturing, the generation of e-waste and the associated greenhouse gas emissions.

Greenhouse gas emissions

There is conflicting evidence on the globally emitted greenhouse gas emissions of the IT industry, but research shows that the emissions probably leveled off between 2010 and 2015, with a possible peak in 2012/13.[9] However, it is crucial that the IT industry decreases its greenhouse gas emissions, in order for the world to mitigate climate change. The most greenhouse gas emissions are emitted in the non-use phase of IT products[10], with emissions ranging between 52–79 per cent of the entire IT product lifecycle.

Resource consumption

Global natural resource consumption is estimated to more than double between 2011 and 2060, and while the IT Industry is less material intense than many other industries, it still relies heavily on metals and minerals.[11] The IT industry is driving the depletion of several finite resources, such as tantalum, palladium and platinum, which are projected to run out in a not too distant future.[12] The global consumption of metals, from all industries, is estimated to increase from 8 gigaton to 20 gigaton between 2011 and 2060.[13] The extraction process for raw materials is also environmentally challenging.[14] For example, the production of a laptop approximately generated 1,2 metric tons of mining waste.[15]

E-waste

According to the Global E-waste Monitor, the amount of e-waste generated globally

[9] Malmodin & Lundén, 2018.
[10] EBB, 2019, TCO, 2020.
[11] OECD, 2018.
[12] Circlar computing, 2019.
[13] OECD, 2018.
[14] Laurenti & Stenmarck, 2015
[15] Laurenti & Stenmarck, 2015

in 2019 is estimated to be 53,6 million metric tons, an increase of 9,2 million metric tons (21 %) since 2014, which is larger than earlier projections.[16] The e-waste is estimated to increase further to 74,1 million metric tons to 2030. This is driven by increased consumption of IT products and other electrical equipment, shorter lifespans of products and few repair options. Out of that e-waste, only 17,4 per cent is documented to be properly recycled and the rest, 82,6 per cent, has no documented waste treatment.[17] It is estimated that around 7–20 per cent of the total amount of e-waste is exported as second-hand products or e-waste. Another 8 percent is discarded into waste bins. The rest (55–68 %) has an unknown fate.[18] If the lifespan of all laptops in the EU were increased by one year, it would decrease the CO_2 emissions with around 1,6 megatons, equal to taking 870 000 cars off the road for one year.[19] This could also decrease the use of finite resources in the manufacturing of new products and decrease the generation of waste.

Less than 20 per cent of e-waste is documented to be properly recycled

Structure, method and content

Building on the knowledge accumulated in the ASF reports of 2018, 2019 and 2020, in combination with the universal need to advance the progress towards the fulfilment of the 2030 Agenda, two SDGs were selected for their specific relevance to the IT industry and the priorities of the Nordic IT buyers: SDG12 (Sustainable production and consumption) and SDG13 (Climate action). SDG12 encompasses the topics of transparency and circular economy, which have been the main focuses of the previous reports. The selection of the SDG13 is based on the acknowledgement of climate change as the determining challenge of the 21st century, as well as a sub-focus in the previous ASF reports. SDGs with specific human rights and/or labor rights focus have been considered, but since such issues have not been identified as the main priority of the Nordic IT buyers during the previous reports, they have not been included in the scope of this analysis. However, since human rights and/or labor rights are closely interconnected with the IT industry and the topics of climate change, transparency and circular economy, they have been touched upon when applicable.

Actors considered in the definition of the IT industry are brand owners (such as Dell, HP, Cisco etc.), manufacturers (Flex, Foxconn, etc.) and their supply chains. Further, the IT products included in the definition are those typically found in a work environment, such as laptops, smartphones, screens and printers.

Three part analysis

The industry analysis consists of three (3) parts.

In the first part, the targets of SDG 12 and SDG13 have been mapped against the result of the survey, which was distributed to Nordic IT buyers as part of the 2021 stakeholder dialogue (see Appendix II). The survey did not include questions about the global goals but the responses still provided relevant information to assess the Nordic IT buyers' prioritization. The responses were analyzed to identify convergence with the SDGs using a guide developed by the UN Global Compact (UNGC) and the GRI (Global Reporting Initiative)[20] that lists business actions that can contribute to each SDG target. The mapping was consequently done linking these actions to the priorities of the Nordic IT buyers and resulted in an identification of which SDG targets can be considered to be of high relevance to the Nordic IT buyers.

In the second part, the recommendations put forth by the Advisory Board in previous ASF reports and the RBA's response to these recommendations have been mapped to the selected SDG targets, in order to identify gaps between the recommendations and the IT industry's contribution to the SDGs.

In the third part, the findings of the industry analyses from the previous ASF reports were mapped against the SDG targets identified in the first part. The purpose was to provide an understanding of whether the current activities by the IT industry may or may not contribute to the fulfilment of the 2030 Agenda.

[16] Global E-waste Monitor.
[17] Laurenti & Stenmarck, 2015
[18] Forti V., et al., 2020.
[19] EBB, 2019.
[20] GRI & UNGC. 2017.

Assessment criteria
Relevance for IT buyers
Low: No or few issues/measures that IT buyers think are important fit within the SDG sub-goal
Medium: Some issues/measures
High: Several issues/measures

Industry contributing to the SDG sub-goals
Low: Negative impact continues to increase or positive impact does not increase
Medium: Some improvement has been made to increase the positive impact or reduce the negative impact
High: Negative influence decreases a lot or positive influence increases a lot

Table 2. Targets under SDG12 and SDG13 that have been assessed to be of high relevance to the Nordic IT buyers (for low and medium relevance, please see Appendix I!)

SDG Targets	Assessment description	Assessed relevance
Target 12.2. Sustainable management and use of natural resources	The survey shows that IT buyers think that extending the lifespan of products, working with circular design, increasing use of recycled materials and resource efficiency are important actions to make IT products more sustainable. Further, increased used of sustainable minerals and decreased environmental impact from production is considered essential to achieve a sustainable production process, as well as standardization of materials that can be reused and/or recycled. Buyers also consider their most effective contributions for sustainable IT management as setting a strategy for sustainable IT, having the right requirements in procurement and buying eco-labelled. This connects to almost all of the business actions of this SDG target, hence this target is assessed to be of high relevance to the Nordic IT buyers.	High
Target 12.4. Responsible management of chemicals and waste and Target 12.5. Substantially reduce waste generation	Many of the sustainability actions that IT buyers want the industry to increase its efforts on are related to waste reduction. For example, extending the lifespan of products and working with circular design. Decreased environmental impact from production (including waste) is also considered important to achieve a sustainable production process, as well as standardization of materials that can be reused and/or recycled. Buyers also identified their most effective contributions for sustainable IT management as setting a strategy for sustainable IT, having the right requirements in procurement and buying eco-labelled. This connects to almost all of the business actions of this SDG target, hence this target is assessed to be of high relevance to the Nordic IT buyers.	High
Target 12.6. Encourage companies to adopt sustainable practices and sustainability reporting	According to the survey, one of the main obstacles preventing buyers from prioritizing sustainability in IT procurement is the lack of information on sustainability performance between different products and companies. This touches upon all the business actions of this SDG target, and since transparency is one of the focuses in the previous reports it is assessed to be of high importance to the buyers. They also want the industry to use its joint influence to strengthen social and environmental frameworks in the countries where the IT industry operates, which is in line with business actions of this SDG target.	High
Target 13.2. Integrate climate change measures into policies and planning.	Reducing negative climate impacts and mitigating climate change was ranked as the most important issue for the IT buyers' own organizations, both now and in the future. Further, products with a low climate footprint was listed as one of the most important actions for the IT industry in order to contribute to more sustainable products. Hence, this target is assessed to be of high relevance to the IT buyers.	High

This analysis has been complemented with information gained from interviewing subject matter experts in the IT industry. The UN Global Compact and GRI guide previously mentioned was used to conduct this mapping as well. The analyzed activities, together with the RBA's response to the previous recommendations, have been reviewed to assess the industry's current contribution to the SDG target in question, according to the scale "low", "medium", "high". Ethos International comments on the results.

Part 1
Mapping of the sustainability priorities of the Nordic IT buyers to selected SDG targets

According to the mapping of the stakeholder dialogue to the SDGs, four targets under the SDG12 and one target under the SDG13 are assessed to be of high relevance to the Nordic IT buyers. The high relevance centers around specific parameters such as sustainable natural resource use, circular design and recyclability of products and materials, the need for extended lifespans and sustainable

Table 3. The recommendations put forth by the Advisory Board in the previous ASF reports.

Recommendations of 2018 (Transparency)	Recommendations of 2019 (Circular Economy)	Recommendations of 2020 (Closing the material loops)
• Establish and implement a uniform reporting framework for the electronics industry to report aggregated impact across core material indicators in the entire supply chain at a company level, beyond first tier. • The material indicators must be reported on by all member companies of the RBA. • All RBA regular and full members are required to include a mandatory and complete list of suppliers.	Develop and implement a 2050 climate-neutral and competitive Business Roadmap for the transition into a circular economy. Key activities include: • Initiate the development of a certifiable ISO standard on circularity for the IT industry • Establish principles for including circular economy provisions in the Code of Conduct and audit protocols • Establish a task force on circularity focused on influencing international rules and regulations and sustainability labels towards circularity • Facilitate roundtable discussions on circular economy design and marketing • Launch academy trainings on circular design • Facilitate stakeholder dialogues regarding the standardization of components and materials – "One cord only"	• Reach an industry-wide agreement on critical obstacles and incentives to close the loop on materials in the value chain; condense the findings in a report and invite stakeholders – including buyers – to a dialogue. • Through a systematic and science-based approach, identify which materials are the most significant to close the loop on in order to maximize the sustainability impact (environmental, social and economic). Share the findings with IT buyers. • When focusing on supply chain design for closing the loop on materials, define principles of a system for material recovery that is resource-, energy- and cost-efficient, while also mitigating social impact. • From a system's perspective, investigate and report on how different approaches to development and design of systems, products and services can affect the value of materials and the ability to recover them. • Based on points 1–4 above, develop recommendations to buyers on how their actions can support the progress toward a circular and climate-neutral IT industry.

procurement practices (see Table 2). The high relevance also centers around expectations of accurate, balanced and transparent sustainability reporting as well as timely environmental accounting from the suppliers.

Part 2. Mapping of the recommendations in the previous ASF reports to the selected SDG targets and RBA's response to these recommendations

Part of the annual ASF process is the development of the recommendations to the RBA (see Table 3), formulated by the Advisory Board. Both implemented and non-implemented recommendations still hold as legitimate and should be considered for continued or initiated efforts, if the IT industry is to efficiently advance its contribution to the 2030 Agenda. This section also includes the RBA's response to the recommendations, together with commentary from Ethos International on the progress so far.

The RBA's response on transparency

Transparency was highlighted as the main focus for the IT industry in the 2018 ASF report, identified as a prerequisite by the Advisory Board for the industry to live up to the IT buyers' expectations on sustainability. The RBA has in partnership with the GRI developed resources to promote transparency in responsible minerals sourcing and modern slavery due diligence. The *Practical Guide to Transparency in Procurement*, which allows buyers to assess a brand's commitment to sustainability and applied management systems, was published during 2019. Increasing the focus on transparency should include an identification of materials that should be prioritized in the quest for circularity and reduced environmental impact in the industry.

The RBA is also working diligently to make use of their aggregated data on suppliers and structural issues in the countries of manufacturing, an effort led by a recently hired data scientist. This initiative could create added value for the Nordic IT buyers, through deepened knowledge of the sustainability performance of suppliers, and it could foster collaborative action between brands, buyers and suppliers.

The RBA has an opportunity to increase the industry's contribution to the SDG 12.6. Further research is needed to assess the progress on the implementation of the UN Guiding Principles on Business and Human Rights and the OECD Guidelines for Multinational Enterprises, principles to which the Nordic IT buyers adhere and therefore expect from their existing and prospective suppliers.

The RBA's response on circular economy

The 2019 ASF report on the circular economy and the 2020 ASF report on closing the loop of materials came with recommendations on the development of a business roadmap towards circularity and the need for increased research on how to overcome the challenges for materials recovery and recycling. The RBA acknowledged the importance of a transition to a circular economy, yet highlighted that in order to make a valuable contribution, its approach to the issue should be aligned with the current focus of the organization which is supply-chain related. RBA members have shown increased interest in the circular economy and a taskforce on e-waste was established in 2018. It has since transitioned to become a taskforce on circular materials, concentrating on reverse supply-chain matters. RBA is also one of the founding organizations of the Circular Electronics Partnership, a multi-stakeholder initiative to develop a roadmap for circular economy in the entire electronics industry.

Today it is evident that the IT industry must be part of the transition to a circular economy, both from a business perspective and from a global sustainability perspective. The Nordic IT buyers prioritize products made with minimal environmental impact, in terms of the manufacturing process and use of materials, and they want to be able to use products longer. If all recommendations defined in the previous reports were to be addressed, this would greatly advance the IT industry's contribution to the fulfilment of SDG targets 12.2, 12.4 and 12.5.

The RBA's response on climate change

The 2019 ASF report on the circular economy introduced the vision of a climate neutral industry by 2050, however the topic of climate change has not been the main focus of any report. The RBA has thus never addressed the issue directly within the scope of the ASF initiative. However, in the recently updated RBA Code of Conduct, there are more ambitious climate provisions, such as requiring members to set a corporate-wide reduction goal and report emissions publically. The IT industry does have a significant impact on climate change throughout the value chain, and it is closely linked to the circular economy. Nordic IT buyers are considering climate change one of their most crucial sustainability topics, suggesting that efforts to increase both knowledge of climate change risks and opportunities in the IT industry are in place. Efficient and collaborative measures could drastically decrease GHG emissions from manufacturing and natural resource use, as well as impacts further down the value chain. Climate change is an important issue for the IT buyers when procuring IT products, urging the IT industry to expand its involvement with the challenge of climate change and the need to reduce the GHG emissions of the industry itself. This becomes even more important as IT solutions have the possibility to decrease emissions in other sectors and as the world becomes more and more digital, increasing the use of IT products globally.

Part 3. Mapping of the findings of the previous industry analyses to the selected SDG targets

Reviewing of the current efforts by the IT industry with a basis in the previous ASF reports shows a low to medium contribution to the SDG targets 12.2, 12.4, 12.5, 12.6 and 13.2 (see Table 4). To gain knowledge on the current status regarding issues important to the Nordic IT byers, the assessment was complemented with interviews with subject experts. The interviews brought forward that there is an increasing maturity in the IT industry when it comes to overall sustainability policies, governance and knowledge. However, there is a need to deepen the commitment to sustainability and show more hands-on actions and the impact of those, which could ultimately increase the IT industry's contribution to the aforementioned SDG targets.

Caroline Rees, President and CEO at Shift

The IT industry brands must investigate the structural, political and cultural contexts where they operate. Caroline Rees[19], president and CEO at Shift, points out that today many brands are putting an unreasonably high trust to supply chain audits and governing policies when it comes to improving sustainability practices in general, and social practices regarding human rights and labor rights in particular. Rees argues that part of the solution lies in scrutinizing whether business models contain factors that make negative human rights impacts inevitable, therefore requiring action by top leadership to make necessary changes. Brands should review their procurement practices, including expected lead times and the prices they are willing to pay their suppliers, in order to create the structural conditions that permit positive change in the supply chain. These are insights that can be threatening to brands as they evaluate themselves, yet they cannot be overlooked. Even though this specific observation regards the topics of human rights and labor rights, it can be translated to the topics of environmental performance and anti-corruption. Another key take-out from the interview is the need for increased collaborative action, be it between brands, buyers, suppliers, and public actors such as regulatory institutions. This is in line with the Nordic IT buyers' opinion that the IT industry should use its joint influence to strengthen environmental and social frameworks where the industry operates.

Dan Reid, Senior Environmental Program Manager at the RBA

There is a need for accurate infrastructure and an economic system that fosters recyclability,

[19] Interviewed on the 28th of September 2020 by Ethos International.
[20] Interviewed on the 2nd of October 2020 by Ethos International.
[21] Interviewed on the 29th of September 2020 by Ethos International.

where recyclers find it beneficial to develop their business models and make the infrastructure investments necessary to scale up their activities. It has become evident that the transition to a circular economy will not happen without multi-stakeholder engagement. Dan Reid[20], Senior Environmental Program Manager at the RBA, underlines the importance of safeguarding human and labor rights in recycling. Today, the value chain of e-waste implies unsustainable practices, which must be addressed if we are to become truly circular. Elaborating on this, Reid says that there exists a gap between the ambition of many brands and suppliers, and the capacity to implement necessary measures. For the IT industry to become more circular it is necessary to involve the entire brand, not limiting the idea of circularity to the sustainability department or its equivalents, but rather make it the interest of the R&D and departments such as procurement, sourcing, manufacturing, sales, and logistics, to name a few.

Andie Stephens, Associate Director of the Carbon Trust

Andie Stephens, Associate Director of the Carbon Trust, confirms that the largest climate impact of the ICT[22] industry lies outside of the brands' operations, in scope 3. Stephens has noticed a deepened knowledge and understanding of scope 3 emissions and links that to the advancement of the Science Based Targets initiative. Making a commitment to set a Science Based Target requires companies to understand and measure the greenhouse gas emissions originating in their entire value chain.

The action that gives the most impact in terms of reducing emissions of greenhouse gases, in the companies' own operation and in scope 3, is the switch from fossil fuels to renewable energy. Stephens recognizes that this is a differentiated challenge for different companies, as the geographical location determine the accessibility to renewables. Still, it is necessary to set ambitious emissions reduction targets and set a strategy to achieve them, as well as communicate them and the impact transparently. It can be suitable to adjust the targets to the geographical circumstances and engage with the suppliers to push them towards renewables. Requiring suppliers to measure and report on their carbon emissions will improve both sustainability reporting and the follow-up on targets. Stephens also highlights the importance of cooperation when it comes to creating change in the supply chains, arguing that if many brands go together to put pressure on their shared suppliers it will have an impact.

Jack Cutts, Data Scientist at the RBA

According to Jack Cutts[21], Data Scientist at the RBA, who works regularly with aggregated supply chain data, one aspect that should be addressed is the need for more holistic and detailed information on suppliers. By focusing on connecting environmental and social data to data on the core production activities of facilities, experts can more specifically tailor their auditing and data collection to the operating environment and characteristics of each facility. The challenge with gathering more closely tailored data is collecting data in a way that preserves the ability to make direct comparisons where appropriate. If more detailed but still pertinent data were collected, it would allow for more accurate measurements and analyses of the impact of policies, procurement requirements and sustainability activities in the supply chain, thereby empowering the buyers in their decision-making.

Summarizing comments from the authors

Growing societal demands on sustainability are putting pressure on procurement departments at public institutions, private companies and other actors to actively engage with their suppliers and supply chains. The annual stakeholder dialogue with Nordic IT buyers shows yet again that their expectations on the IT industry remain centered around environmental concerns such as natural resource consumption and climate change, both of which relate to circular economy. Corporate transparency is also considered key to advance the sustainability of the IT industry supply chain. The findings of this year's industry analysis show that

[22] Editor's note: Andie Stephens' conclusions are considered relevant and applicable to the IT industry.

Table 4. The IT industry's assessed fulfillment of the Nordic IT buyers' expectations on the sustainability issues and current contribution to the SDG targets identified as being of high importance (fulfillment and contribution graded as low, medium or high).

SDG Targets	Assessment	Description (Mapping of the previous industry analyses of 2018, 2019, 2020 to the SDGs)
Target 12.2. Sustainable management and use of natural resources	Low	There has been an increase in stakeholders' expectations and regulatory pressure on achieving a more efficient use of natural resources and reduced environmental impact, to be achieved through the implementation of circular-economy principles. The manufacturing of IT products comes with a heavy environmental toll due to the large outtake of natural resources, such as minerals and metals. Reduced environmental impact from manufacturing is considered a main priority of the Nordic IT buyers. Brands are taking measures to increase the use of recycled contents in their products and several of the large actors have joined The Circular Electronics Partnership aiming for a circular electronics industry by 2030; however there is a knowledge gap of the actual performance of brands and manufacturers regarding resource efficiency in the manufacturing of IT products and the resulting environmental impact. There are some positive signs that the lifespan of IT products is starting to increase, but it is unclear if this lifespan increase is driven by the IT industry or by a change in customer behavior. At the same time, accusations of planned obsolescence and high costs for product repairs show a contradictory reality. Despite the positive indications of a move towards more sustainable manufacturing processes, the current contribution of the IT industry to SDG target 12.2 and the fulfillment of the Nordic IT buyers' expectations is assessed as low. There is still a long way to go and more tangible action must be undertaken. If the IT industry were to meet the expectations of stakeholders and regulatory bodies, it could increase the IT industry's contribution to SDG target 12.2.
Target 12.4. Responsible management of chemicals and waste and Target 12.5. Substantially reduce waste generation	Low	Waste is a rapidly increasing problem in the IT industry that needs to be addressed with urgent measures. E-waste consists of a variety of materials and finite resources, including precious metals and minerals. Neglecting to properly recycle these has a dual impact: the contamination of landfills and local ecosystems where the disposal takes place, and the continuous need to mine and extract primary resources elsewhere. Since the issue of e-waste only has become greater during recent years, the IT industry's contribution to these SDG targets and fulfillment of the IT buyers' expectations is assessed to be low. For the industry to increase its contribution to SDG target 12.4, products must be designed for circularity, including recycling, and incentives need to be implemented to drive this change. *Chemicals has not been addressed to any larger extent in the previous ASF reports, even though it may be relevant to do so.*
Target 12.6. Encourage companies to adopt sustainable and sustainability reporting	Medium	Many companies operating in the IT industry publish sustainability reports on an annual basis, communicating their governance of and performance on sustainability in their own operations and in their supply chains. However, there is still work to be done to make it easier to compare different companies' governance structures and performance. There has been some progress on the issue of transparency in recent years, but there is still room for improvement to meet buyers' expectations and to perform in line with this SDG target. Hence the IT industry's contribution is assessed to be medium. Increasing transparency in the industry with regards to challenges such as climate impact, resource use and human rights, enables the IT industry to contribute to SDG target 12.6.
Target 13.2. Integrate climate change measures into policies and planning.	Medium	There are indications that the global GHG emissions from the IT industry has levelled off in recent years. However, more needs to be done if the industry is to half its GHG emissions by 2030, in accordance with the Paris Agreement, and to contribute to the SDG target 13.2. The curve of GHG emissions still need to decrease. The IT industry's contribution to these SDG targets and the fulfilment of the IT buyers' expectations is assessed to be medium. Efforts need to be directed towards decreasing the GHG emissions in the brands' value chain, outside their own operations, since it is where the most GHG emissions are emitted.

there is an intersection where the sustainability priorities of the Nordic IT buyers converge with the targets under the SDG12 and SDG13 and the wider global sustainability framework of the 2030 Agenda. This suggests that dedicated efforts to address the sustainability priorities of the Nordic IT buyers and implement the Advisory Board's recommendations could create positive synergy effects.

Business models to change

Industry experts interviewed for the industry analysis highlighted that even though the sustainability maturity of the IT brands has increased considerably over time, there is a need to engage with structural issues in order to create lasting, sustainable change in the IT supply chain. For example, brands are considered to place too much weight on supply chain audits when it comes to addressing sustainability issues. It is argued that some business models must be changed if sustainable change is to be achieved, as the current emphasis on short lead times and low prices is making it untenable for suppliers to improve the working conditions at their facilities, or the environmental management system. Another key point to take out of the industry analysis regards the need for sufficient and fit for purpose recycling infrastructure if we are to make the transition to a circular economy.

Hands-on action needed

Further, the largest climate impact lies in scope 3, outside of the brands' operations, and switching from fossil fuels to renewable energy is the action that would yield the greatest positive impact. Setting ambitious emission reduction target and a strategy to achieve them, communicating that strategy and the progress made, as well as working together with suppliers is also crucial to succeed with the transformation towards a climate-neutral industry. These three examples indicate the need to quickly accelerate and move from having the right governing documents in place – Code of Conducts, Supplier Code of Conducts, sustainability policies and guidelines –to hands-on actions that will create tangible change. The industry experts also underline the need for more and improved data. With access to more aggregated data, IT buyers and other stakeholders would be able to better assess the sustainability performance of the IT industry in general and certain suppliers in particular.

Appendix II

This Appendix shows the SDG targets under SDG12 and SDG13 that was assessed to be of medium (Table 5) and low relevance (Table 6) to the IT buyers or that was not applicable to the IT industry (Table 6).

Table 5. SDG targets that has been assessed to be of medium relevance to the Nordic IT buyers.

SDG Targets	Assessment	Assessment description
Target 12.1. Implement the 10-year sustainable consumption and production framework	Medium	The survey shows that the IT buyers think that extending the lifespan of IT products, working with circular design and using circular business models are important actions for the IT industry to implement to become more sustainable. The IT buyers have also identified that having a strategy for sustainable IT, the right requirements in procurement and buying eco-labelled equipment are prerequisites for a sustainable IT industry. This connects to several of the business actions of this SDG target but not all, hence this target is assessed to be of medium relevance to the Nordic IT buyers.
Target 12.7. Promote sustainable public procurement practices	Medium	Having a process for how sustainability requirements are developed and followed-up upon, cooperation among IT buyers on sustainability requirements and buying eco-labeled equipment has been ranked as important actions for IT buyers to make the industry more sustainable. This touches upon several of the aspects of this SDG target, but not all, hence this target is assessed to be of medium relevance for the IT buyers.

Table 6. SDG targets that has been assessed to be of low relevance to the Nordic IT buyers or that is not applicable to the IT industry.

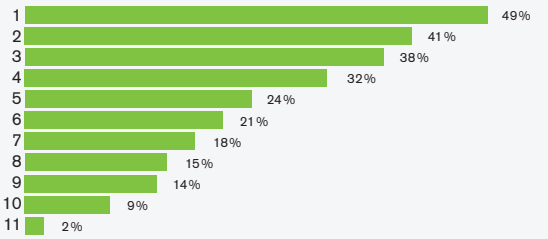
SDG Targets	Assessment	Assessment description
Target 12.8. Promote universal understanding of sustainable lifestyles	Low	This SDG target is also concerned with transparency issues that has been identified as major obstacles for the IT buyers in procurement. However, this SDG target is focused on individual consumers rather than businesses. Hence, this SDG target is considered to be of low relevance for the IT buyers.
Target 13.1. Strengthen resilience and adaptive capacity to climate related disasters	Low	The issues of resilience and adaptive capacity to climate-related hazards are not included in any larger extent in the stakeholder dialogue even though it may be relevant. The focus lies on mitigating negative impacts on the global climate. Hence, this target is assessed to be of low relevance to the IT buyers. However, this assessment could change if more information were to be gathered on the issue.
Target 13.3. Build knowledge and capacity to meet climate change	Low	The issues of awareness-raising, training and early-warning technologies are not included in any larger extent in the stakeholder dialogue, even though it may be relevant. The focus lies on mitigating negative impacts on the global climate. Hence, this target is assessed to be of low relevance to the IT buyers. However, this assessment could change if more information where to be gathered on the issue.
Target 12.3. Halve global per capita food waste	Low	Not applicable.

Appendix III

Stakeholder Dialogue

In the 2020 ASF Customer dialogue, 531 Nordic IT buyers expressed their views on sustainable IT. These are the detailed results on the questions related to their role as buyers. Please read more about the survey on page 9.

What can your organisation do more in order to contribute to more sustainable IT?

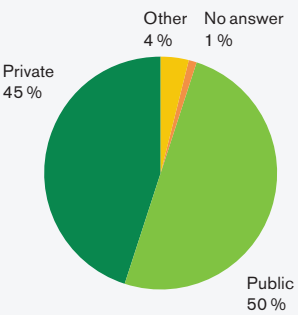


1 = Produce a strategy for sustainable IT.
2 = Create and reinforce a process and internal collaboration around how you specify, verify and monitor sustainability requirements.
3 = Specify requirements for products with a high proportion of recycled components/recycled material.
4 = Buy ecolabelled equipment.
5 = Collaborate with other IT buyers on sustainability requirements.
6 = Circulate equipment internally.
7 = Review internal ownership and management in order to gain better control over IT equipment.
8 = Procure IT as a service.
9 = Increase participation and involvement in forums for dialogue with the industry and manufacturers.
10 = Procure pre-used equipment.
11 = Other

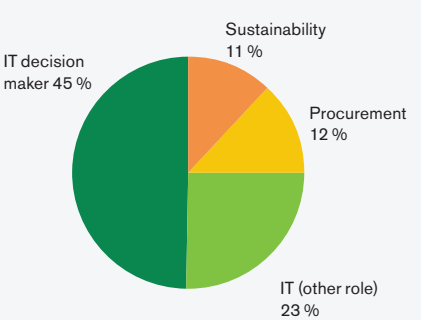
(A maximum of three alternatives possible)

The typical respondent
- IT decision maker
- From a large organization (500+)
- 50% public or 45% private

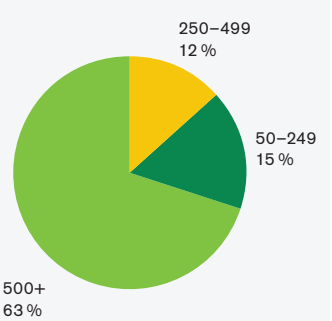
Sector



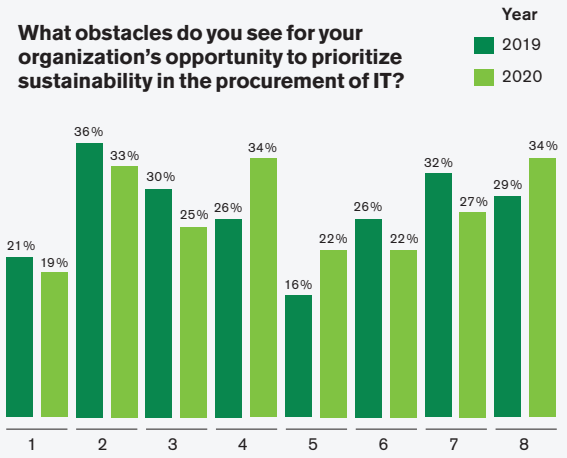
Role



Size of organization



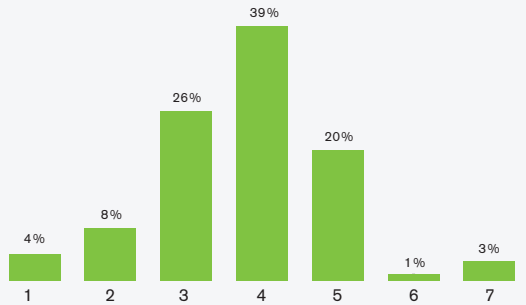
What obstacles do you see for your organization's opportunity to prioritize sustainability in the procurement of IT?



1 = It is unclear who is responsible for ensuring that sustainability is considered in the procurement of IT
2 = It is difficult to obtain information about and to compare the sustainability performance of different solutions
3 = It is difficult to obtain information about and to compare manufacturers' systematic work on sustainability
4 = It is difficult to measure the effects of the measures taken
5 = There is poor engagement in the organization for sustainability-related issues associated with the procurement of IT
6 = I see no obstacles
7 = We lack knowledge of/feel unsure about how to specify relevant and effective requirements
8 = We lack the time and resources to follow up on the requirements

(A maximum of three alternatives possible)

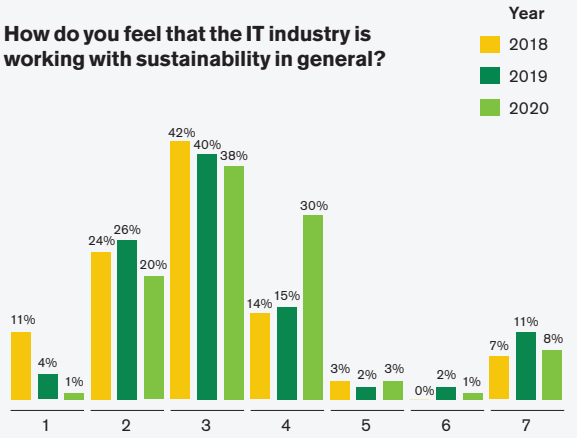
How does your organization prioritize sustainability-related issues in the procurement of IT?



1. They have very low priority
5. They have very high priority
6. No answer
7. Unsure/Don't know

The results for this question is about the same as 2019.

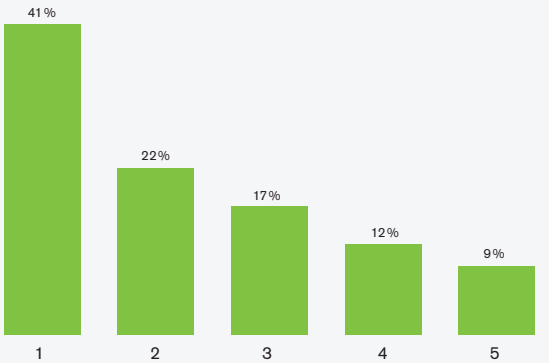
How do you feel that the IT industry is working with sustainability in general?



1 = Very poorly
5 = Very well
6 = No answer
7 = Unsure/Don't know

IT buyers more positive towards the industry's work on sustainability.

Which of the alternatives best describes how you specify sustainability requirements in the procurement of IT?



1 = We specify a range of requirements including qualification requirements, evaluation criteria and contract terms
2 = We specify requirements, which are verified in the tender stage
3 = We do not specify requirements
3 = We ask questions, which are answered in the form of a self-declaration
5 = We ask suppliers to sign our Code of Conduct

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