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ESG in Warehousing

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PART 1: INTRODUCTION

INTRODUCTION

As the global business landscape continues to evolve, environmental, social, and governance (ESG) considerations have taken center stage, transforming the way companies operate and are perceived by stakeholders. In recent years, the significance of sustainable practices in various industries has been underscored by mounting concerns over climate change, resource scarcity, and social inequality. In response, businesses are increasingly integrating ESG principles and action plans into their strategies to create and return long-term planetary and societal value and mitigate risks.

In today's rapidly evolving world, embracing ESG practices within logistics is becoming increasingly crucial. This shift is propelled by a convergence of factors, including the need to comply with stringent regulations, respond to changing consumer preferences, and seize the immense potential for achieving cost savings and streamlining operational processes. By prioritizing ESG principles, logistics companies can not only thrive in the current market but also demonstrate their commitment to sustainability, social responsibility, and long-term success.

In logistics, the mind defaults to transportation driving the highest impact in this space, however warehousing is a discipline not to underestimate. In this article, we explore the different options and promising initiatives an organization and its warehousing operations can look at from the environmental, social and governance point-of-view, as well as the different existing frameworks to assess the sustainability of the warehouse.

PART 2:
SUSTAINABILITY FRAMEWORKS FOR WAREHOUSES

As the business landscape continuously evolves, so does the regulatory and framework space impacting logistics. Numerous frameworks have been developed to assess and evaluate the environmental impact, social responsibility and governance practices of warehouse operations. In this section, we will guide you through an exploration of the prominent frameworks designed to assess and enhance the sustainability performance of warehouses. The overview of this collection will provide valuable insights into the application and benefits of these methodologies, empowering warehouse leaders and operators to navigate the complexities of sustainability assessments with confidence.

1. LEED for Building Design and Construction

One of the most recognized sustainability frameworks for buildings globally is Leadership in Energy and Environmental Design (LEED). LEED offers a comprehensive set of criteria to evaluate the sustainability of the design and construction phases of a building's lifecycle. Developed by the U.S. Green Building Council (USGBC), the LEED certification considers factors such as energy efficiency, water conservation, waste management, and indoor environmental quality. By achieving LEED certification, warehouses can demonstrate their commitment to sustainable practices and gain recognition for their environmental performance.

2. BREEAM for Industrial Buildings

Next to the U.S. based framework, the Building Research Establishment Environmental Assessment Method (BREEAM) is widely recognized in Europe and internationally as a leading sustainability assessment framework. BREEAM has been adapted for various building types, including industrial and logistics facilities, such as warehouses. BREEAM assesses a range of environmental and social factors, including energy use, water management, waste reduction, and ecological impact and assesses the entire lifecycle of a building, from design and construction to operation and management. By pursuing BREEAM certification, warehouses can showcase their sustainability achievements,which also include, compared to LEED, the health and wellbeing dimension of a warehouse, and align with recognized industry standards.

3. WELL Building Standard

Compared to LEED and BREEAM, the WELL Building Standard is a framework for measuring and monitoring the features of a building that impact the health and well-being of the people who occupy it. While primarily focusing on occupant health and well-being, the WELL Building Standard also includes elements of sustainability in its assessment. This framework assesses factors such as air quality, lighting, acoustics, thermal comfort, and access to nature, which can contribute to the overall sustainability performance of a warehouse. Achieving WELL certification can indicate a warehouse's commitment to providing a healthy and sustainable work environment for employees.

4. ISO 14001

The International Organization for Standardization's ISO 14001 standard provides a globally recognized framework for environmental management systems. While not specific to warehouses, this standard can be applied to assess and improve the environmental performance of warehouse operations. ISO 14001 certification helps warehouses establish systematic approaches to identify and manage their environmental impacts, including resource consumption, waste generation, and emissions.

These are just a few examples of the sustainability regulations and frameworks available to assess the sustainability performance of warehouses. Each framework has its own unique focus and criteria, catering to different aspects of sustainability. The choice between the different frameworks often depends on factors such as project location, market preferences and the specific sustainability goals you wish to achieve. By embracing these frameworks, warehouses can actively contribute to building a more sustainable future while reaping the tangible benefits of operational efficiency, cost savings, and enhanced reputation.

PART 3:
ENVIRONMENTAL ASPECTS IN WAREHOUSING

In recent years, there has been a growing recognition of the significant environmental footprint of warehousing activities, including energy consumption, greenhouse gas emissions, waste generation, and water usage. As a result, environmental considerations are increasingly integrated into companies ESG strategies to address these issues and contribute to a more sustainable future. However, what can be challenging is to understand where to start, what to do, when and how to act, etc. In this part of the article, we will highlight the key drivers that should be considered regarding logistics and more specifically, warehousing.

Right-size & Reusable Handling Units (HU)

By transitioning from single-use or limited-runs packaging and handling units to first right-sized and then reusable alternatives that can be utilized multiple times, and potentially made from fully recycled and recyclable materials, a significant reduction in waste can be achieved. This encompasses waste reduction in terms of handling, disposal, and the materials themselves. It does, however, introduce new reverse logistics and potentially Tax & Customs processes, which drive people and systems impacts. Companies must now solve this new type of reusables sustainability-driven cost-benefit equation.

In this context, the key definitions to note are:

- **Returnable Shipping Assets (RSAs) or Reusable Handling Units (RHUs)** refer to specialized, durable packaging containers such as totes and crates, as well as load carriers like pallets and shipping containers. These units are designed to securely package and transport goods, with the intention of being reused multiple times, preferably within the same supply chain. Due to the significant upfront costs associated with ownership, many companies choose to rent or pool their RHUs instead.

- **Right-Sized Packaging (RSP)** or on-demand packaging stands in contrast to using oversized boxes compared to the volume of the shipped order. It involves using precisely calculated packaging that minimizes empty space around the products, while ensuring their safety and maintaining your branding.

Transitioning to such methods would bring **clear benefits** but also some **key challenges** that must be addressed :

BENEFITS

- **Make companies' supply chain greener** as it would involve reducing waste, minimizing the need for dunnage, and optimizing use of resources.

- **Reduce carbon footprint** by requiring fewer resources and less energy for production, resulting in fewer materials, lower transport emissions, and less waste.

- **Decrease costs** in various areas such as packaging, labor (due to simplified processes), inventory, purchasing spend, and fuel expenses (due to lighter shipping assets and lesser dunnage). Specifically with RSP, the material, production, handling and inventory costs would be reduced.

- **Improve competitiveness by enhancing efficiency and productivity** in shipment handling, reducing processing time, minimizing damages, and providing better protection for products.

- **Minimize damages** caused by eliminating empty spaces within boxes, leading to **better brand image perception** among customers who experience less waste when opening packages.

CHALLENGES

- **Overstocking** to avoid shortage of RHUs and to avoid running out during peak shipping periods. However, it is one of the key factors that affects supply chain efficiency, as returnable assets cost money, both to buy and to hold, and buffering idle shipping assets is a recipe for loss.

- **Underutilization** if, for example, the packaging size is too large for the product being shipped, leading to inefficient use of the available space. **Overutilization** when companies try to maximize the use of reusable units by packing them with more products than they are designed to hold.

- **Risk of theft**, as there's a growing market thriving on the theft and resale of reusables, especially plastic items that can be ground and sold off as scrap. It is then crucial to have 100% auditability and high visibility of the reusable assets, necessitating **tracking measures.**

- **High cost** of maintaining and renewing right-size packaging or reusable assets.

- **Customs handling** as compliance with customs regulations regarding size restrictions and labeling can be complex, while inspections may be difficult due to tightly packed or secured packaging.

- **Product damage** is too small or inadequate, driving customer dissatisfaction **customer dissatisfaction.**

- **Inefficient operations** can occur due to process changes and using too many different types of packaging can lead to **increased complexity** in managing the new RSP processes.

Considering all this information, the next "logistic" step is to understand how RHUs and RSP can be implemented in daily operations.

A key aspect for Reusable Handling Units is to decide on the best supply strategy. There are four main approaches that we describe below, however further alternatives are possible depending on different parameters such as volumes and type of RHUs :

BUYING:

Buy and become owner of the RHUs. By buying RHUs, companies also own the costs of transport, administration, repair, replacement storage and logistics.

EXCHANGING:

Collaborative solution to exchange reusable RHUs between shippers and receivers: buy the RHU and exchange with similar standard handling unit. This is typically applicable for Euro Pallets. In this case, each side assumes responsibility for the same inventory of RHUS to be exchanged.

POOLING:

Use RHUs from a shared pool managed by an external 3rd party and pay for the number in use. In terms of accountability, the external pooling company is responsible for the quality, sourcing, maintenance, delivery and collection. Clients then pay only for the actual usage of the RHUs, and not for the rent of any unused idle assets. Clients still get a risk of additional costs for pallets not recovered, for example.

RENTING:

Rent and use RHUs from an external company. In this case, assets are not shared as for pooling, and thus have exclusive access. Clients pay for the quantities rented. In this case, external rental companies are responsible for the maintenance, reconditioning, and replacement but the users remain responsible for the logistics flow management.

Implementing right-size packaging in companies involves evaluating **product dimensions, analyzing shipping requirements, conducting packaging testing, collaborating with suppliers, optimizing design, considering sustainability, implementing pilot programs, and monitoring performance.** By carefully assessing product needs, designing efficient packaging, and considering environmental impact, companies can optimize product protection, reduce waste, and improve supply chain efficiency. **Continuous monitoring and adjustments** will thus be essential to ensure ongoing effectiveness and adaptation to evolving shipping requirements.

As previously explained in the introduction of this article, the BREEAM certification system evaluates the environmental performance of buildings and developments and is recognized in Europe and internationally as a leading sustainability assessment framework for warehousing. By considering right-size packaging and reusable packaging in their operations, businesses can contribute to achieving BREEAM certification

and demonstrate their commitment to sustainability especially on the following criteria : use of sustainable materials, such as recycled cardboard or biodegradable materials, waste management, optimizing transport and lastly, incorporating reusable packaging aligns with the circular economy principles, which are increasingly important in sustainability discussions.

The considerations above directly influence **LEED** and **ISO14001**, while we can also mention other frameworks:

*   **Cradle to Cradle certification,** evaluating products based on their sustainability across the entire lifecycle.

*   **Sustainable Packaging Coalition's How2Recycle Label,** a labeling system that provides consumers with clear instructions on how to recycle different types of packaging and thus encourages the use of sustainable packaging materials.

IT-OT CO$_2$ footprint

In the dynamic world of modern warehousing, the synergy between **Information Technology (IT) and Operational Technology (OT) such as large-scale automation or autonomous robotics** has **revolutionized operations.** As warehouses become increasingly reliant on sophisticated IT systems and interconnected OT devices, the **environmental impact of their combined IT/OT infrastructure has gained considerable attention.** By understanding the subtleties of IT/OT infrastructure and recognizing the importance of **mitigating its environmental impact,** businesses can embark on a path towards sustainability, minimize their carbon footprint, and contribute to a greener and more eco-conscious future.

The IT/OT CO$_2$ footprint refers to the amount of carbon dioxide emissions that are generated by IT and OT systems. **Digital technology has two faces in the climate emergency.** Whilst it plays an important role in **enabling the insights and communications necessary to solve climate change, its carbon footprint is significant.** Technology has an important carbon footprint due to growing data generation, transport, storage and consumption, increasing at a rate of up to 15% per year (3-4 times faster than aviation).

To be able to define the IT/OT CO$_2$ footprint and how to mitigate its impact on environment, the core understanding of its two components is essential:

*   **IT stands for Information Technology** and refers to the use of computers, software, and other technologies to manage and process information. It typically includes tasks such as **networking, data storage and management, software development, and cybersecurity.**

*   **OT stands for Operational Technology** and refers to the use of hardware and control systems to manage and monitor physical processes and machinery in industrial and manufacturing settings. This includes tasks such as **hardware automation, process control, supervisory control and data acquisition (SCADA), and industrial control systems (ICS).**

The carbon footprint of the IT/OT infrastructures and transactions must be determined while deploying corresponding carbon reduction initiatives. Examples of the **biggest emission sources for companies** are:

- Data Center Operations

- Industry 4.0

- Storage and network Hardware

- Automated tools and vehicles

- AS/RS (Automated Storage & Retrieval System)

- End-users' devices

- 3rd party hosted software

As per our discussion regarding Reusable Handling Units (RHUs) and Right-size packaging (RSP), we find here similar reasons explaining why it is important to focus on IT/OT CO_2 footprint.

One significant benefit of reducing IT/OT CO_2 emissions is the **environmental impact.** IT/OT infrastructure accounts for a significant amount of global greenhouse gas emissions (GHG). According to some estimates, the IT sector alone accounts for around 2% of global CO_2 emissions, which is again comparable to the aviation industry. By reducing those emissions, companies can contribute to the global sustainable effort and mitigate climate change.

By taking proactive steps to reduce their IT/OT CO_2 footprint, companies can enhance their **reputation and brand image**, while demonstrating their commitment to sustainability and social responsibility.

Implementing energy-efficient practices and technologies to reduce energy consumption and carbon emissions from IT/OT infrastructure, can also lead to substantial **cost savings**. Lower energy costs contribute to improved financial performance and operational efficiency.

Addressing the carbon footprint of IT/OT infrastructure ensures **regulatory compliance**. Governments and regulatory bodies are increasingly introducing legislation and regulations to encourage companies to reduce their carbon emission as they need to be compliant with existing and future regulations.

However, despite the numerous benefits of addressing the carbon footprint of IT/OT infrastructure, companies may also encounter **several challenges in effectively reducing their CO_2 emissions:**

- **Existing infrastructure**, as upgrading or replacing outdated systems is often enormously costly and time-consuming.

- **Lack of awareness** among stakeholders about the environmental impact and potential benefits of reducing CO_2 emissions, requiring education and engagement efforts.

- **Complexity** of IT/OT infrastructure, with a wide range of systems and applications that may be difficult to manage and optimize.

- **Data security and privacy concerns** must also be addressed to ensure that energy efficiency initiatives do not compromise critical data.

- While reducing the IT/OT CO2 footprint can lead to cost savings in the long term, there may be **initial costs** associated with implementing energy-efficient technologies and practices.

There are several strategies for companies to reduce their IT/OT CO_2 footprint. One approach is to adopt **energy-efficient hardware**, such as servers and storage devices with **high Energy Star ratings**, which significantly reduces energy consumption and carbon emissions. Embracing **cloud computing** allows companies to utilize optimally shared IT resources hosted on remote servers, reducing the need for individual data centers and servers, thus minimizing energy consumption. In other words, cloud computing enables users to access computing resources and services over the internet, without the need to manage and maintain their own physical infrastructure.

Incorporating **renewable energy sources**, like solar, wind, or hydroelectric power, can power IT/OT systems, reducing reliance on fossil fuels and mitigating carbon emissions. **Designing data centers in a more energy-efficient way**, utilizing technologies like free cooling or liquid cooling, decreases the need for energy-intensive air conditioning and results in reduced energy consumption. **Optimizing software for energy efficiency** is also crucial and achieved through strategies such as code optimization, reducing memory usage, and minimizing unnecessary network traffic. This highlights the importance of energy efficiency to reduce the IT/OT CO_2 footprint both for hardware and software.

To conduct a concrete strategy of IT/OT CO_2 footprint reduction, it's crucial to be aware of its initial impact. With this at heart, Deloitte created an **accelerator dashboard** that helps monitoring the target greenhouse gas (GHG) emissions and progress made on each initiative. **CarbonNOW** is thus a carbon budgeting application for CIOs that sets a baseline for their IT estate and tracks progress against science-based targets.

Specifically for **warehousing**, digitalization and automation layers involve several IT/OT components (fleet management, WMS, WCS, yard management, hardware automation and robotics, IOT etc.). This generates the need for interfacing and infrastructure (servers, cloud, etc.). To align to current trends and needs, the more companies opt for new and additional systems from the growing portfolio available on the market (80+ different automation systems), the more they increase their CO_2 footprint.

It is thus vital to be aware of this situation and act on it by measuring and monitoring holistic IT/OT setups. Doing so enables sustainability-related certifications, generating ESG credibility for companies. While **BREEAM** does not specifically address IT/OT infrastructure, there are several directly related criteria in which companies can aim toward the certification by focusing their IT/OT footprint: **energy efficiency, carbon emissions reduction, data monitoring and reporting** which is necessary to track the impact and then identify possibilities of improvement.

Besides BREEAM, there are several other frameworks and certifications related to technology CO_2 footprints, such as **The Green Grid**, a non-profit organization that promotes energy efficiency in data centers and IT/OT infrastructure or **EPEAT**, a global registry of environmentally sustainable electronics that includes criteria for energy efficiency and reduction of hazardous substances in IT/OT equipment. By adopting one or more of these certifications, companies can demonstrate their commitment to reducing their CO_2 footprint, enhance their reputation for sustainability, and contribute to the global effort to mitigate climate change.
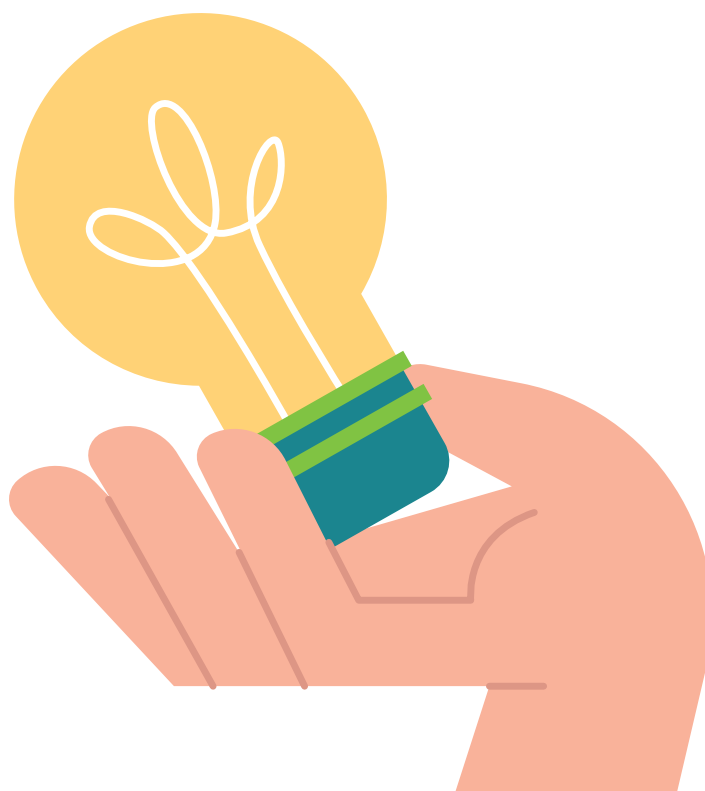
Finance

Financing companies, which would regularly fund Material Handling Equipment (MHE) fleets, now offer services to offset the entire CO_2 emissions of their Clients' Logistics and IT assets. While this is very good interim solution to contribute to a positive impact, it should not become a means to avoid actually walking the ESG talk.

Carbon offsetting has become an important tool for companies looking to reduce their carbon footprint and meet their sustainability goals. By working with financing companies that offer such carbon balancing services, clients can take advantage of the expertise and resources of these companies to identify and invest in high-quality carbon compensation projects that align with their sustainability goals.

Financing companies that offer carbon neutralization services typically work with a network of partners and experts to identify and evaluate **carbon offset initiatives.** These projects can take many forms, including **renewable energy, forest conservation and restoration, and energy efficiency.**

Before detailing this topic, it is important to understand the difference between carbon neutral and net-zero carbon emissions. **Carbon neutral** means that any CO_2 released into the atmosphere from a company's activities is balanced by an equivalent amount being removed. It means that emissions produced and offset are equivalent. **Net-Zero** (also called **Climate neutral**) means reducing all greenhouse gas (GHG) emissions as much as possible, and offsetting only the essential emissions that remain. **The EU's ambitions are to be the first climate-neutral continent by 2050.**

When a company invests in a carbon compensation project, they receive a set of **carbon credits**, which each representing a reduction of one metric ton of carbon dioxide emissions. These carbon credits can be bought and sold on carbon markets, which provide a mechanism for companies to meet their carbon reduction targets and for individuals to balance their personal carbon emissions.

These projects not only offset carbon emissions but also generate **positive impacts on local communities** through the creation of **job opportunities, infrastructure improvement, and the reduction of health risks**. They can align with **the United Nations' 17 sustainable development goals** and promote sustainable development at the economic, social, and environmental levels in the respective countries where they are implemented. To ensure that these projects are effective in combating climate change and meeting their objectives, they can be verified and certified according to different certification that we will further develop in this discussion.

Despite the proven benefits, carbon offsetting is **not a substitute for reducing carbon emissions**. Instead, it is a (temporary and) complementary approach that can help to mitigate the environmental impact of carbon emissions that cannot be avoided. To achieve meaningful progress in the fight against climate change, it is important to pursue both carbon reduction and carbon offsetting strategies and to approach them with a critical eye and recognize their limitations and potential downsides. It is a way to be carbon neutral but **to globally remain below a 1,5°C temperature rise, only the essential emissions should be offset while focusing on reducing all greenhouse gas (GHG).**

For example, opting for a carbon compensation strategy can lead to a **lack of accountability** in ensuring that purchased carbon offsets truly deliver the promised environmental benefits, raising concerns about the credibility and transparency of the process. Critics argue that offsetting may **perpetuate fossil fuel** use as it allows individuals and companies to continue carbon-intensive practices without effectively reducing their overall carbon footprint. Relying solely on offsetting can also **divert attention and resources away from more essential changes** needed to address the root causes of climate change. Eventually, even well-designed offset projects may face **uncertainties in achieving their carbon reduction goals** due to factors such as weather patterns, market fluctuations, and political instability.

To compensate the carbon emissions generated by Material Handling Equipment (such as forklifts, AGVs/AMRs or conveyor) , financing companies may invest in carbon offset projects that are specifically designed to reduce or remove carbon emissions from the atmosphere. These projects may include **renewable energy** (such as wind farms and solar power plants), **or reforestation initiatives that involve planting trees to absorb carbon dioxide from the atmosphere.**

Financing companies may also work with their clients to **identify opportunities to reduce carbon emissions from MHE fleets** through the adoption of more energy-efficient technologies or the use of alternative fuels. This could involve the use of electric or hybrid MHE equipped with regenerative braking and efficient battery setups such a Lithium-Ion, as well as the adoption of more efficient routing, scheduling and resource allocation practices to reduce the carbon footprint of logistics operations.

Unlike the two previous topics, carbon offsetting does not directly fall into the scope of **BREEAM** certification. It can be one of many strategies that a building project or operation can use to reduce its carbon footprint and contribute to sustainability, but it is not a direct BREEAM requirement. For example, some BREEAM assessment categories, such as energy and transport, do require the project team to demonstrate that they have taken measures to reduce carbon emissions associated with the building and its operations.

For a more direct approach, there are certifications that assess carbon offset projects and importantly use frameworks to ensure these are duly controlled and regulated. In this category, **The Gold Standard** requires projects to meet a range of criteria, including additionality, sustainability, and permanence, to ensure that the offsets generated are of high quality and have a real impact on reducing greenhouse gas emissions. The same logic as the Gold Standard is also undertaken by the **Climate, Community and Biodiversity Standards (CCBS),** a certification program that recognizes carbon balancing projects that deliver significant social and environmental co-benefits, in addition to reducing greenhouse gas emissions.

The **Verified Carbon Standard (VCS)** is another voluntary certification program that sets standards for the quantification, monitoring, and verification of greenhouse gas emissions reductions and removals. The VCS provides a framework for projects to generate carbon credits through a range of activities, including carbon offsetting, and for these credits to be verified and traded on the carbon market.

As part of EU (European Union) regulations, an **Emissions Trading System (ETS)** has been created. It's a "cap and trade" system that establishes a limit on the total amount of specific greenhouse gases that can be emitted by participating operators. Within the cap, operators buy or receive emissions allowances, which they can trade with one another as needed. The limit on the total number of allowances available ensures that they have a value. The price signal incentivizes emission reductions and promotes investment in innovative, low-carbon technologies, whilst trading brings flexibility that ensures emissions are cut where it costs least to do so. This provides a framework to regulate the carbon offsetting mechanism and make sure it leads to emissions reductions at the end.

Conclusion - Environmental aspects in Warehousing

To conclude on this environmental aspect, warehousing plays a crucial role in the ESG framework. It encompasses practices aimed at reducing the ecological footprint of operations and technologies and minimizing negative impacts on the environment. It is important to note that addressing environmental topics in warehousing is now necessary to comply with EU regulations, powering the ambitions to be the **first climate-neutral continent by 2050** and to reduce GHG emissions by 55% by 2030, which in turn led to creation the **Fit for 55 package**. To reach climate-neutrality, several actions have been defined into the **EU Green Deal** and the **EU Sustainable Finance Action Plan (SFAP).** To learn more deeper insights regarding this topic, please visit the Climate & Sustainable Deloitte website providing more detailed analysis and information:

https://www2.deloitte.com/be/en/pages/climate-and-sustainability/topics/working-together-towards-a-sustainable-future.html.

PART 4:
SOCIAL ASPECTS
IN WAREHOUSING

A second important pillar when incorporating reporting on ESG in the warehouse is the "S", which stands for "Social". This pillar refers to the well-being of people employed in warehousing, both inside and outside of the company and ensures staff are treated fairly, promoting diversity and inclusion and giving back to communities. By implementing these initiatives, companies can not only improve their ESG performance but also drive a much-improved retention and create a positive impact on the social aspect of their warehousing operations, which can benefit employees, customers, and the wider community.

Neurodiversity in warehousing

Neurodiversity is one contributor of putting the S(ocial) in ESG. Neurodiversity (ND) refers to Autism, whose prevalence is about 1% of the global population. This talent group exhibits strong patten thinking, accurate eye for detail, visual flows and exceptions as well as a sustained focus on repetitive tasks of high quality delivered with honest, high engagement, motivation and loyalty. Even though the IQ of neurodiverse talent has the same spread as the neurotypical (non-autistic) population, the neurodiverse unemployment rate is above 80%. Hence, in today's talent scarcity, employing neurodiverse talent in the warehousing environment could result in an unprecedented win-win.

Neurodiversity in warehousing shows great potential based on available research, given the **compatibility between the numbers-driven, high-precision/quality recurrent types of work activities and the particularities of various forms of ND**. We believe such environments, if designed and built properly, can provide engaging employment and integration of ND Talent, combined with remarkable high-quality work conducted for their employers. The concept can be applied across two application pillars, based on the principle of "anchored individual environments", each requiring a dedicated design of the working concept (process execution, environment setup in terms of exposure to lighting and sound levels, working with technology, interpersonal interactions etc.), in which ND Talent could flourish.

The first application pillar is the warehousing **back-office or typical warehousing white collar roles**. It has been observed that 30% of ND Talent exhibit above-normal intelligence combined with strong patten thinking, and have an accurate eye for detail, visual flows and exceptions. Based on that ND are well fitted to be employed in the back-office for data cleaning, process mapping, intelligent document processing, document creation and maintenance of even part of a project team or client staff. Moreover, ND talent are valuable resources to provide the mandatory data, crunch the numbers, run the business case(s) and design and lean out the processes in the overall warehouse design methodology.

The second application pillar for ND Talent in warehousing is in **operations** or typical blue-collar roles. With eye for detail and accuracy, sustained focus on repetitive tasks, warehouse operations such as master data capture, inspection and decisioning in returns handling, goods-to-person put-away, unit picking, inventory management as well as sortation, labelling and packing are suitable operations for ND talent.

Employing neurodiverse talent in a warehouse can bring numerous benefits across the several use cases described above. There are also certain considerations that organizations need to take into account when integrating neurodiverse individuals into warehouses.

Potential challenges are:

1 A careful **matching between roles and best-fit profiles** to ensure tasks are compatible with their strengths.

2 **Behavioral awareness and coaching** of both neurodiverse candidates and their future colleagues and supervisors.

3 **The physical environment design** needs to ensure ND compatibility with, for example, highly sensory sensitivities, social interactions and daily operational routines.

4 Engaging with ND talent is supported by d**edicated, specialized subcontracting companies** which support operations in both becoming educated on the specific of ND collaboration, as well as in hedging the direct employment risk.

Implementing ESG initiatives can require significant investment of resources (people, time and budget), especially in areas such as health and safety or diversity and inclusion. Some companies may struggle to justify these costs to stakeholders or prioritize them over other business goals. By understanding and addressing the challenges faced by neurodiverse talent, warehouses can create an inclusive work environment that harnesses the unique strengths and contributions of these truly special and highly capable individuals. Implementing accommodations, offering support, and promoting awareness will ensure that neurodiverse talent thrives in their roles and contribute to the success of the organization.

Workforce deployment and training

As the social aspect from ESG refers to the treatment of your employees, customers and communities, a more general, and already widely adopted initiative to improve the social experience in the warehousing space is the investment in the **development and training** of the workforce. This refers to organizing and managing staff in a warehouse environment, as well as providing the necessary inputs to ensure employees are equipped with the skills and knowledge required to perform their roles effectively, respectively developing their careers. This process is crucial for maintaining efficient operations, optimizing productivity, and ensuring the safety of all team members.

Key actions to plan are to:

• Provide **regular training programs** and opportunities for employees to develop new skills and knowledge relevant to their job roles. Training may cover a wide array of disciplines, such as equipment operation, inventory management, safety procedures, quality control, customer service, productivity improvement techniques and, in the contemporary digital mindset, data literacy.

• Offer **apprenticeships or mentorship programs** to support career development. These programs typically involve a designated period of shadowing and hands-on training under the direct guidance of experienced mentors or trainers.

• Encourage a **culture of learning and continuous improvement**. This involves promoting employee engagement, soliciting feedback, and empowering workers to suggest and implement process enhancements. As such, it fosters a sense of ownership and empowerment and

enables the workforce to contribute to the optimization of warehouse operations**.**

Through an increased focus on staff deployment and training, organizations can have a transformative impact on employee **engagement, retention, and productivity**, and thus create a dynamic and engaging work environment. There are three considerations to achieve this:

• Implementing comprehensive training programs requires significant allocation of resources (both financially and personnel-wise). Additionally, given the increasing automation and digital levels of warehouse operations, ensuring your employees are trained to understand, adopt and effectively operate these technologies, training programs should be deployed as recurrent investments.

• Balancing the daily operational demands with training and deployment might be challenging and requires careful scheduling, while not reducing the latter's priority.

• Warehousing experiences high turnover rates, which poses challenges in maintaining a consistently skilled workforce. Continuously training new hires to fill vacancies is time-consuming and capital-intensive, thus robust, easily re-deployable programs supported by technology such as Virtual Reality (VR) are rapidly gaining popularity.

Overcoming these obstacles requires careful planning, resource allocation, and a commitment to continuous improvement. By investing in the development of a skilled, engaged, and safe workforce, organizations can create sustainable and responsible work environments which align with their ESG goals.

Health, safety and well-being

For warehouses and their daily web of countless, intersecting moving parts (machines, products, people), a social initiative with a pivotal ESG role is the staff's "Health & Safety". This encompasses a range of measures including comprehensive **safety training, regular inspections, and the implementation of robust protocols** to prevent accidents and mitigate potential hazards.

However, modern warehouses are taking a step further by integrating **wellbeing practices** into their health and safety initiatives. Acknowledging the direct link between physical and mental health, operations are adopting strategies that prioritize the holistic wellbeing of their employees.

Such programs are well represented in the BREEAM and WELL frameworks and encompass various aspects, such as providing gym memberships or access to fitness facilities, offering healthy food options in cafeterias, establishing break areas, providing adequate lighting, controlled noise levels (such as around automated systems) and ventilation and fostering a positive work culture that promotes open communication, teamwork and recognition

A workforce that feels supported, valued, and healthy contributes to increased productivity, reduced absenteeism, and higher employee retention rates. Additionally, by implementing comprehensive health and safety practices while promoting employee wellbeing , warehouses can achieve the following benefits:
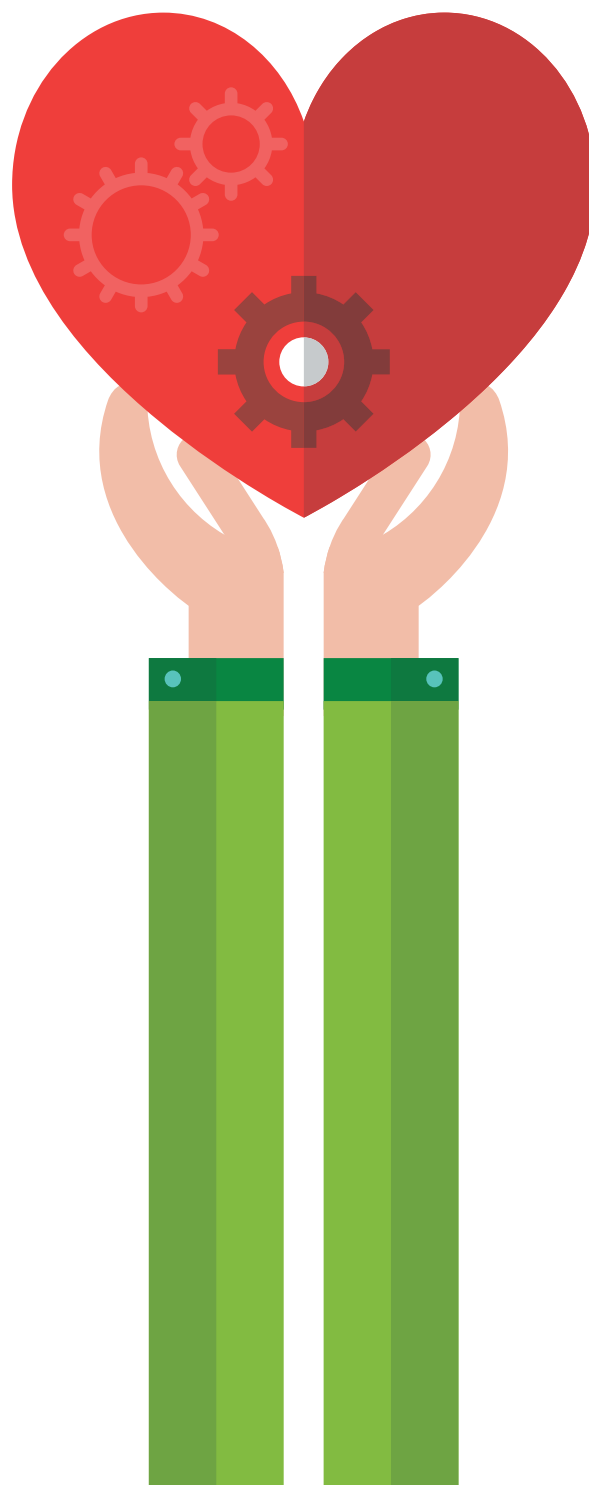
- Reduced risk of accidents and injuries.

- Improved employee health and well-being.

- Increased productivity and reduced absenteeism

- Reinforced commitment to ESG principles

Setting and maintaining warehouse health, safety and wellbeing programs is on ongoing process. It's important to tailor these practices to the specific needs and requirements of each warehouse and its staff. Regular evaluation and feedback from employees can help refine and enhance these well-being initiatives over time.

Another way of addressing **worker's safety** in the warehouse could be done via selecting the **appropriate Warehouse Management System (WMS),** while addressing at the same time other key sustainable challenges such as the **under/over utilization of resource capacity, optimal talk allocation and the energy consumption.** A well-selected WMS plays a crucial role in companies' **warehouse social strategy** by providing the **necessary tools and functionalities** to address the challenges. As we have already been reviewing in this article, while it must be controlled and managed, having the proper IT tools is crucial to control and manage operations of companies and tackle the sustainable logistics problematic ahead. To go further on how a proper WMS could help in green logistics, we invite you to read the following article; Green Logistics with SAP EWM - Resources Optimization.pdf (deloitte.com):

https://www2.deloitte.com/content/dam/Deloitte/de/Documents/technology/Green%20Logistics%20with%20SAP%20EWM%20-%20Resources%20Optimization.pdf

PART 5:
GOVERNANCE ASPECTS IN WAREHOUSING

Workers treated fairly and their safety

As discussed in the previous section, warehouse **workers' wellbeing, safety and health** are key components of the Social aspect of the ESG framework. It is key to understand that ensuring safety and fairness in companies is also a core aspect of Governance. It refers to the management and oversight of a company's operations, including how it addresses risks, manages compliance, and upholds ethical standards. When it comes to worker treatment and safety in warehousing, governance focuses on **establishing policies, procedures, and structures that ensure the fair treatment and safety of workers.**

There are several reasons why a company should focus on these aspects as part of their sustainable Governance and envision it with their Social strategy as a whole to develop a sustainable vision and strategy. These key reasons are:

- **Ethical responsibility** to treat workers with dignity, respect, and fairness, promoting a positive work environment. By prioritizing fair treatment and worker safety, companies uphold their ethical standards and demonstrate their commitment to responsible business conduct.

- **Reputation and brand image** as companies that prioritize these aspects are perceived as responsible and ethical, attracting positive attention from stakeholders, while incidents of mistreatment or safety violations can lead to reputational damage and loss of trust.

- **Compliance with legal and regulatory requirements**. Laws exist to protect workers and promote their safety, and companies that neglect these obligations face legal consequences such as penalties and liabilities.

- **Stakeholder expectations,** as they increasingly expect companies to demonstrate responsible and sustainable practices. Building trust will ultimately **enhance the relationships' long-term success.**

By embedding these principles into the governance framework, companies can create a culture of fairness, safety, and responsibility, benefiting both workers and the organization in its entirety.

However, numerous challenges arise when incorporating these crucial aspects into warehouse operations. From complying with **complex regulations to balancing costs and safety considerations,** companies must navigate these obstacles to create a safe and equitable work environment:

- **Compliance with complex regulations:** companies need to **regularly monitor and stay updated** on the relevant regulations and standards, as meeting and adhering to complex regulations on worker safety and fair treatment across various jurisdictions is demanding , especially for multinational companies with operations in multiple locations.

- **Balancing cost and safety:** striking the right balance between cost considerations and providing adequate safety measures and fair treatment, while facing budget constraints or cost-cutting pressures must be considered by companies. They must, at their best, **prioritize safety** as a fundamental aspect of warehouse operations, by considering it as an **investment** rather than a cost and by **conducting cost-benefit analyses** to demonstrate the value of such initiatives.

- **Cultural and language barriers:** in warehouses with a diverse workforce, language and cultural barriers should lead to foster more **open communication channels and culturally inclusive work environment**, as this will encourage mutual respect and understanding, and help workers report and address their concerns.

- **Changing workforce dynamics:** warehousing operations may experience high turnover rates and often rely on temporary or contract workers. **By establishing clear policies** that outline expectations and standards for all employees and address key areas such as **safety protocols, fair compensation, and non-discrimination,** companies can take action on that. This will also help **promoting a culture of safety** through training and recognition as we already detailed as part of the sustainable social strategy of companies.

- **Resistance to change:** introducing new processes and technologies can face resistance from workers or even management, due to a lack of awareness, fear of change, or concerns about productivity impacts. Companies need to account for their policies and **engage workers in the decision-making process** to address their concerns and increase acceptance.

- **3ʳᵈ party supply chain:** in cases where warehousing operations are part of a larger supply chain, it becomes more difficult to keep up with the levels of standards initially set which is why **extending governance practices to the entire supply chain** must be highly considered.

To conclude on this topic, and as we mentioned in the overall Social aspect of the ESG framework, ensuring fair treatment and work safety can be linked to the **BREEAM** certification which **encourages the implementation of effective health and safety management systems** that prioritize worker safety and well-being. As for BREEAM, the **LEED certification**, a widely recognized green building certification system, focus primary on environmental sustainability but it **includes credits related to indoor environmental quality and occupant health**, which can encompass worker safety and well-being.

Supply Chain Management

In the context of governance in warehousing, companies can also ensure **that their suppliers**, as part of their entire supply chain, **adhere to ethical and sustainable practices**.

Monitoring the entire supply chain and making sure that parties involved comply to such practices provides a lot of benefits to a company which are actually similar as the ones we have already touched upon: **ethical responsibility as a company, reputation and brand image, legal and regulatory compliance and finally aligning to stakeholders' expectations**.

It also helps **maintaining long-term supplier relationships** as it creates a sense of **partnership and collaboration** and enhances **innovation**, by commonly seeking sustainable solutions, leading to the development of new processes, products, and services. Overall, incorporating an approach that ensures supplier adherence to ethical and sustainable practices into governance in warehousing can contribute to a **more responsible and resilient supply chain** and **create value** for the company and its stakeholders.

While managing the entire supply chain in ensuring a linear sustainable governance level leads to positive impact, it also comes with a set of challenges and complexities:

- **Finding suppliers who align with the company's values** and meet the desired ethical and sustainability standards is not easy. Some suppliers may also be **resistant to change** or reluctant to adopt ethical and sustainable practices, particularly if they perceive these changes as burdensome or costly.

- **Complex and global supply chains with multiple tiers of suppliers**. It requires visibility and control over various supplier relationships, including those further down the chain to ensure ethical and sustainable practices throughout the entire chain.

- **Lack of transparency and limited control** prevent effective monitoring and compliance.

- **Balancing the need for responsible practices with cost considerations,** as for workers safety and fair treatment, especially if the suppliers operate in regions with lower labor and environmental standards.

It then becomes essential for companies to conduct **regular audits and inspections** of their suppliers' practices. These assessments evaluate various aspects, such as labor conditions, environmental impact, and adherence to ethical standards. Audits and inspections help identify any non-compliance or areas that require improvement, enabling companies to take necessary actions to rectify issues and ensure supplier compliance.

Developing **long-term relationships with suppliers** who share their clients' values is a key aspect of sustainable governance in warehousing: by establishing strong, transparent partnerships that prioritize ethical and sustainable practices, companies can **create a mutually beneficial and sustainable supply chain**.

Implementing **effective supply chain management** practices is crucial for ensuring that suppliers adhere to ethical and sustainable practices. This includes:

- **Establishing clear expectations and requirements** in supplier contracts such as the development of a comprehensive supplier code of conduct

- **Actively monitoring supplier performance**, and maintaining open lines of communication

- **Leverage of technology**, such as supply chain management software and data analytics, to track and assess supplier compliance .

For these purposes, Deloitte has developed a **proprietary intelligence platform called _Illuminate_**. This tool is used to help organizations rapidly and autonomously gain visibility into their multi-tier supply networks, sense risks and mitigate them to minimize disruption. By leveraging data and intelligence, Deloitte aims to assist organizations in achieving more resilient and secure supply chains. Please visit this link for more information:

https://www2.deloitte.com/uk/en/pages/technology/solutions/illuminate.html.

It is thus clear that prioritizing ethical and sustainable practices in supplier relationships is not only morally imperative but also a strategic imperative for businesses. It ensures a responsible and resilient supply chain, strengthens stakeholder relationships, and positions companies for long-term success in a rapidly evolving business landscape.

Conclusion

The integration of environmental, social, and governance (ESG) practices in the warehousing industry is no longer a mere option, but a necessity where there are several frameworks available to guide and help the assessment and transformation. By doing so, operations can achieve operational efficiency, mitigate risks, and build strong stakeholder relationships. Deloitte is committed to assisting companies in their ESG journey, unlocking the full potential of sustainable warehousing practices. Embracing ESG today and focusing on the environmental, social and governmental initiatives outlined in this article will pave the way for a more sustainable future in warehousing and beyond.

Contacts
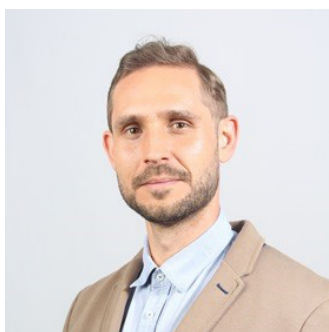
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