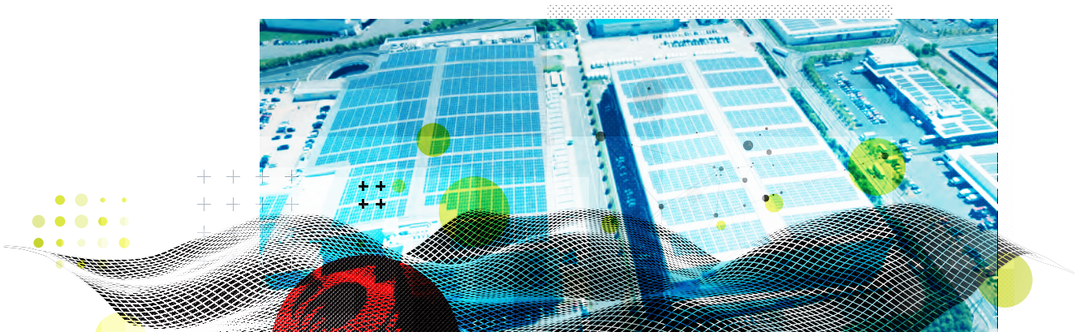
„THE INDULGENCE TRADE WITH CERTIFICATES HAS NO FUTURE“

AN INTERVIEW WITH CHRISTIAN BORM, M. SC. , COORDINATOR OF THE "VDI FOCUS TOPIC 1.5°" AT THE VDI - ASSOCIATION OF GERMAN ENGINEERS, ABOUT ENERGY-FLEXIBLE FACTORIES AND GREEN VALUE NETWORKS.

Christian Borm,
coordinator of the "VDI Focus Topic 1.5°"
(Image: VDI e.V.)

The 1.5-degree target of the Paris Climate Agreement is the focus topic of the VDI (Association of German Engineers) in 2021. As part of the interdisciplinary VDI initiative "1.5° - Innovations. Energy. Climate. - Together for the Climate Goal", experts from the VDI specialist societies are available to companies as contacts. As an independent, technology-neutral association, the VDI aims to provide transparent information about solution paths and their advantages and disadvantages - for example, in questions of climate protection, the provision of electricity and heat, or mobility.



"A fair one Competition is essential for successful climate protection."

DIALOG: Mr. Borm, the representatives of the G7 countries were unable to agree on a concrete coal phase-out date in Cornwall, but they did agree on an infrastructure initiative to support developing countries. Will the focus of global climate policy be redefined?

CB: Not re-set, but re-examined. The concern of the infrastructure initiative is more important than ever for several reasons: First of all, the climate crisis is global and can only be solved globally. So investments in building a sustainable, functioning economy are necessary all over the world, especially after Covid-19. In addition, there is certainly a politically motivated connotation at the moment, namely to bring the G7 infrastructure initiative into play as a sustainable alternative to the Chinese New Silk Road project.

Thinking a bit further, however, there is another dimension at stake: namely, achieving equal, fair production conditions worldwide - but also from the perspective of the industrialized nations. As long as the product price is the measure of all things in global competition, companies in Europe will perhaps produce in a more climate-friendly way, but at higher costs than those companies that do not have to worry about environmental protection and transparent supply chains. In this context, the issue of "level playing field," i.e., ensuring equal and fair competitive conditions for all market participants, is therefore gaining renewed importance.

DIALOG: This will require stricter regulatory requirements, similar to those in Europe. Where should governments start in order to achieve a lot for climate protection in the short and long term?

CB: Clearly the expansion of renewable energies. This is the "raw material" that we need everywhere in the world for transformation in the energy system, including very particularly in Germany. If we can't use renewables across the board in this country, everything downstream won't make sense. Unless they are available somewhere on the world market just as "green".

"The transformation to The energy-flexible factory requires a redesign of the value-added processes."

DIALOG: What hurdles does German industry face in switching to renewable energies?

CB: As I said, this renewable energy must first be available in sufficient quantities. And not just on a balance sheet basis over the course of the year, but in the exact periods when it is also needed. Even if you buy "green" energy quantities on paper on the electricity market by terawatt hours, they will not necessarily be completely "green" in physical terms. So if you currently want to produce in Germany with a truly sustainable energy supply, you have to synchronize your plants with generation from photovoltaics, wind, hydropower or geothermal energy, or import energy from these sources from abroad via transmission grids.

The second major hurdle is then to optimize the manufacturing processes for this form of energy supply, i.e. , to create energy flexibility in the factory. This requires a whole series of sometimes more, sometimes less serious changes - for example, for energy storage, in the adjustment of machine occupancy, order sequencing, process starts, etc. In the VDI 5207 series of guidelines, we describe how to change your production accordingly so that these measures harmonize with each other.

DIALOG: Sounds like an extremely challenging task ...

CB: That's how it is. And we haven't even taken into account the fact that most productions pursue a continuous process for maximum utilization of their resources. This is fundamentally at odds with energy use, where decisions have to be made literally according to the weather, with ecological or economic weighting.

Even today, this is not yet possible without further ado. This is another key challenge that will have to be solved in the next few years: creating the digital interfaces and databases that companies can use to reliably find out exactly when this supply of renewable energies will be available at the desired price, so that they can plan their production accordingly. So in most cases, a transformation to an energy-flexible factory will require realigning the value creation processes.

"No real transformation is possible without the expansion of renewable energies."

DIALOG: But energy supply is only one aspect where companies can score points for their carbon footprint. Where can further potential be tapped?

CB: Best practice companies deal with at least three fields of action: Firstly, with a continuous further development of the energy supply with the aim of using 100% renewable energies. Secondly, with a control of externally purchased operating resources with the objective of achieving the lowest possible resource, energy and CO_2 footprint. Thirdly, with the further development of their supply chain management, ensuring up to the Tier 3 level that points one and two are shared and pursued together - this is the final stage, so to speak.

Some companies are already working very actively towards this third scope of being able to completely "green" themselves and their suppliers. This is exactly the right way to go - as opposed to purchasing certificates to compensate for gaps or shortcomings. This selling of indulgences is not sustainable, as it postpones the necessary changes in one's own company and supplier companies instead of dealing with them. There are residual emissions that, for

technical reasons, can only be offset by compensatory measures, but this illusion of sustainability, of wanting to solve all problems without other adjustments, helps no one.

> *"An illusion of Sustainability helps no one."*

DIALOG: What are the hallmarks of sustainable supply chain management?

CB: In general, you should ensure that your own manufacturing process has the smallest possible footprint. And then optimize the life cycle of the product so that it is as recyclable as possible at the end and the raw materials are returned to the cycle. Those who have so far placed a lot of emphasis on further developing cooperation with their suppliers in terms of costs, innovation and reliability will find it easier to additionally align this cooperation with sustainable management.