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Siemens Infrastructure Transition Monitor 2023

Fewer than 50% of organizations expect to meet decarbonization targets by 2030, study reveals

- **Siemens launches study of 1,400 executives globally revealing regional, city and industry insights regarding the infrastructure transition across energy systems, mobility and buildings**
- **Decarbonization is a top priority within the infrastructure transition, but progress is too slow**
- **Over 50% of executives believe decarbonization is a competitive advantage, but less than half believe their country has an effective decarbonization strategy**
- **Technology and digitalization key levers of a successful infrastructure transition**

Siemens Smart Infrastructure has released key insights into the divisive nature of the infrastructure[1] transition in a new report, titled *"Siemens Infrastructure Transition Monitor 2023: The Great Divide on The Path to Net Zero."* Data from the report reveals that there is limited alignment on priorities and how best to progress towards a decarbonized and resource-efficient world. Whilst more than half of people surveyed believe the infrastructure transition is accelerating in their region, a quarter of participants - senior executives from seven major industry groups - said that progress is "too slow", while 29 percent believe progress is "coordinated", and 31 percent describe it as "on target".

The study set out to measure the current state of the infrastructure transition, including developments within the systems, services, buildings, and structures that are needed for industries, cities, and countries to function effectively. Data was collected through a global survey of 1,400 senior executives from 22 countries, as well as a series of in-depth interviews with leaders and experts.

Siemens AG
Communications
Head: Lynette Jackson

Werner-von-Siemens-Strasse 1
80333 Munich
Germany

The guiding principles behind the research outlined in the report include the necessity of the infrastructure transition to have a positive impact beyond decarbonization. Secondly, smarter infrastructure integration is mandatory to affect change. Finally, action must be undertaken urgently and at top speed to avert disastrous global consequences.

Matthias Rebellius, managing board member of Siemens AG and CEO of Smart Infrastructure, said: “The infrastructure transition is accelerating, putting pressure on systems worldwide – from energy, to mobility, to buildings. Evolving the world’s infrastructure is of the utmost importance to enable progress towards decarbonization, resource efficiency, and social wellbeing. Technology and digitalization are instrumental to achieving this transition in a smart and sustainable way. At Siemens Smart Infrastructure we have already taken the first steps, creating innovative products, systems, solutions, and services to support the present and future challenges of urbanization and climate change.”

Change is not happening fast enough at the regional (country) level

Despite the acceleration of the infrastructure transition, faster progress is needed at the regional (country) level to support a low-carbon world. Energy is a key priority as almost three quarters of global greenhouse gas emissions come from production, use and transportation of energy. According to the report, less than 10 percent believe their region (or country) to be “advanced, fully integrated, full-scale" on major energy goals of the transition. According to McKinsey[2], to decarbonize the world's energy system would require an estimated USD 275 trillion to make deep changes to electrical power generation, distribution, and consumption. Regulatory authorities are seen as having the greatest responsibility here (according to 31 percent of respondents), closely followed by the ultimate owners of assets, investors/shareholders (25 percent). Businesses (17 percent), politicians (13 percent), and citizens (13 percent) are all described as having some responsibility, but significantly less.

Decarbonization is a competitive advantage for cities

In the fight against climate change, cities have a major role to play. In the survey, half of respondents (51 percent) believe that being ahead in decarbonization is a

competitive advantage for a city. Decarbonizing mobility, including public transport networks and commercial and private vehicles is a priority to reduce emissions. 45 percent of respondents feel their cities have made progress to encourage the use of public transport. However, according to the report, 44 percent also believe that the privatization of public transport would speed up decarbonization. In terms of feasible mobility policies, 46 percent of executives believe that subsidies or taxes should be used to make electric cars cheaper than combustion engine vehicles. Currently, the lack of charging infrastructure was found to be the biggest barrier to widespread adoption of electric vehicles.

Only 40 percent of organizations expect to reach decarbonization targets this year

Businesses are under pressure to decarbonize their business models, assets, and infrastructure. According to the report, nearly half have targets for Scope 1 and 2 emissions (47 percent). Only 40 percent think it is likely that they will meet their targets for the year ahead and just 44 percent expect to meet their 2030 targets. The report indicates that there could be a correlation between confidence in organizational growth prospects and confidence in decarbonization targets.

Another key area of consideration for businesses is their buildings. Only 37 percent of respondents rated their organization as mature or advanced in improving the energy efficiency of facilities and buildings, and just 30 percent said the same for electrification and/or decarbonization of heating and cooling. There is, however, hope that businesses can leverage innovative solutions to enhance their performance and sustainability of their buildings without the need for extensive new construction, but progress needs to be quicker.

Technology and digitalization to accelerate the transition

The report indicates that technology and digitalization are key levers of a successful infrastructure transition. This is expected to have the biggest impact on decarbonization, resource efficiency and wellbeing over the next three years. Key technologies that could have the biggest positive impact include AI-driven predictions and automation, virtual and augmented reality, and 5G mobile networks. According to nearly half of respondents, digitalization has significant or massive

potential to support progress in energy efficiency (48 percent), productivity (46 percent), and decarbonization (45 percent) within their organizations.

Matthias Rebellius concluded: “Overall, the report confirms that whilst there is not always a strong alignment between citizens, business and government on the main requirements and goals of the infrastructure transition, it is critical to act now to mitigate the effects of climate change. Collaboration and digitalization across the areas of energy, mobility and buildings will be key in paving the way forward toward a decarbonized world.”

[1] For this report, “Infrastructure” refers to any of the systems (e.g., electrical power systems), services (e.g., healthcare), buildings (e.g., a factory or office towers), and structures (e.g., railways) that are needed for industries, cities, and countries to function effectively.

[2] https://www.mckinsey.com/featured-insights/sustainable-inclusive-growth/chart-of-the-day/the-cost-will-not-be-net-zero

This press release as well as press pictures / further material are available at https://sie.ag/65h1v8

For more information, visit: https://www.siemens.com/global/en/company/insights/infrastructure-transition-monitor.html

Contact for journalists:

Siemens Smart Infrastructure
Lena Carlson
Phone: +49 159 0168 4611; E-mail: lena.carlson@siemens.com

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Siemens Smart Infrastructure (SI) is shaping the market for intelligent, adaptive infrastructure for today and the future. It addresses the pressing challenges of urbanization and climate change by connecting energy systems, buildings and industries. SI provides customers with a comprehensive end-to-end portfolio from a single source – with products, systems, solutions and services from the point of power generation all the way to consumption. With an increasingly digitalized ecosystem, it helps customers thrive and communities progress while contributing toward protecting the planet. Siemens Smart Infrastructure has its global headquarters in Zug, Switzerland. As of September 30, 2022, the business had around 72,700 employees worldwide.

Siemens AG (Berlin and Munich) is a technology company focused on industry, infrastructure, transport, and healthcare. From more resource-efficient factories, resilient supply chains, and smarter buildings and grids, to cleaner and more comfortable transportation as well as advanced healthcare, the company creates technology with purpose adding real value for customers. By combining the real and the digital worlds, Siemens empowers its customers to transform their industries and markets, helping them to transform the everyday for billions of people. Siemens also owns a majority stake in the publicly listed company Siemens Healthineers, a globally leading medical technology provider shaping the future of healthcare. In addition, Siemens holds a minority stake in Siemens Energy, a global leader in the transmission and generation of electrical power.
In fiscal 2022, which ended on September 30, 2022, the Siemens Group generated revenue of €72.0 billion and net income of €4.4 billion. As of September 30, 2022, the company employed around 311,000 people worldwide. Further information is available on the Internet at www.siemens.com.