

Environmental, Social, & Governance (ESG) Transversality for a Sustainable Water–Energy–Health–Environment Nexus

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- We are meeting at a time when sustainability challenges are no longer confined to individual sectors. Water stress, energy transitions, public health risks, & environmental degradation are deeply interconnected - & climate change, urbanisation, & economic growth pressures are intensifying these links.
- Fragmented approaches simply do not work anymore. What is required is transversality - integrated thinking & coordinated action across systems. ESG offers one of the most practical frameworks to operationalise that integration. It moves sustainability from aspiration to measurable governance.
- Too often, ESG is often misunderstood as mere compliance or reporting. In reality, it shapes how decisions are made - integrating water security, energy resilience, public health, & environmental stewardship into a unified risk & opportunity framework.
- This need for alignment is most visible in the water–energy–health–environment nexus. Thermal & hydropower systems depend heavily on water availability. According to global risk assessments by institutions such as the *World Resources Institute*, roughly one-tenth of global power generation operates in areas facing high water stress. At the same time, water supply & wastewater treatment systems are major energy consumers. When climate variability intensifies droughts or floods, both systems are destabilised - with direct consequences for food security, urban stability, & public health.
- The *UN's World Water Development Report 2025* reinforces this interconnected vulnerability: nearly half of the world faces water scarcity for at least part of the year, & climate change is amplifying infrastructure fragility & health risks.
- It is at this intersection that ESG transversality becomes critical - aligning environmental risk management, social equity, & institutional accountability.
- Globally, ESG is no longer voluntary - it is embedded in regulation & finance, with trade & investment increasingly linking sustainability to competitiveness. The EU's Carbon Border Adjustment Mechanism is a clear example influencing production standards & disclosures in emerging economies.
- But this shift is not confined to Europe. India is actively shaping its own model of ESG-linked development - & doing so at scale. Over the past decade, flagship initiatives have reflected integrated, outcome-oriented governance: from **Jal Jeevan Mission's** expansion of tap water access & **Atal Bhujal Yojana's**

community-based groundwater management, to **PM-KUSUM's** solarisation of agricultural pumps, renewable energy expansion through the **International Solar Alliance**, & river basin restoration under **Namami Gange**. Together, these initiatives link resource security, public health, & sustainability within a unified development framework.

- These are not isolated schemes. They reflect a broader policy evolution - toward cross ministerial coordination, digital monitoring, direct benefit transfer systems, & measurable delivery outcomes.
- This integrated approach is particularly critical in managing the food–water–energy nexus. A **2016 CUTS International study** under the Sustainable Development Investment Portfolio programme, supported by Australia's Department of Foreign Affairs & Trade, highlighted the need for coordinated policy reform, technology adoption, & institutional capacity building. Its recommendations - including improving irrigation efficiency, promoting balanced fertiliser use, rationalising energy subsidies, & incentivising resource efficiency underscore the importance of aligning sectoral policies with sustainability outcomes.
- Regulatory reform is reinforcing this trajectory. The Securities & Exchange Board of India's - Business Responsibility & Sustainability Report (BRSR) & the BRSR Core frameworks mark a decisive shift from narrative disclosure to measurable, & increasingly assured ESG reporting. With phased expansion covering up to 1,000 listed companies from FY 2025–26, indicators such as water use, energy intensity, emissions, occupational health & safety, & value-chain accountability are now being integrated into corporate governance & capital allocation.
- For water & energy intensive sectors including power, manufacturing, mining, agriculture, & urban infrastructure, ESG considerations are no longer merely reputational. They shape operational resilience, financial exposure & long-term competitiveness.
- Finance is a powerful lever in this transformation. Green bonds & sustainability linked instruments are increasingly tied to measurable improvements in resource efficiency & social impact. For India, nexus-based ESG investments offer an opportunity to de-risk infrastructure, improve service delivery, attract long term capital, & strengthen the country's leadership in sustainable development.
- But the critical question remains -- Do ESG systems meaningfully influence investment decisions & improve workers' welfare?
- In **2025**, **CUTS International published a study** titled '*ESG Tools, Investment Decisions & Workers' Welfare - A Case Study of India*,' examining precisely this relationship. The research finds that ESG frameworks deliver meaningful impact only when metrics are context-sensitive, measurable, & aligned with regulatory

systems. It reinforces the central argument of transversality - linking environmental performance, capital allocation, & worker welfare within a coherent governance framework.

- Within this nexus, health demands particular attention. Climate linked water stress, pollution, & energy disruptions directly increase disease burdens & strain health systems. India's National Action Plan on Climate Change & Human Health, along with Heat Action Plans pioneered in cities such as Ahmedabad, illustrates how environmental governance must increasingly incorporate public health preparedness.
- Yet one persistent challenge remains - institutional silos. Water, energy, health, & environment are still too often planned & regulated in isolation. ESG transversality offers a way out of this fragmentation. It encourages shared metrics, aligned planning cycles, common data platforms, & incentives that reward integrated outcomes rather than isolated outputs.
- Technology & data will be critical enablers of this shift - whether through digital monitoring systems, AI-based forecasting, or integrated resource modelling. But technical capability alone is not enough. Social legitimacy matters equally. ESG frameworks must translate into tangible improvements in livelihoods, affordability, & resilience - particularly for communities most exposed to water stress, energy poverty, & climate shocks.
- Community led water management, decentralised renewable energy systems, & climate resilient health infrastructure are not just technical fixes. They are long term social investments that build resilience from the ground up.
- Globally, countries such as Singapore have demonstrated how integrated water governance can turn scarcity into resilience, while Denmark's coordinated wind integration & district heating networks show how energy transition can align climate, efficiency, & affordability objectives. India's scale & diversity present a more complex challenge but also a greater opportunity to innovate.
- To conclude, ESG transversality is not an academic construct. It is the architecture required for 21st-century governance.
- In a world of tightening resource constraints & rising climate volatility, nations that succeed will be those that align infrastructure, finance, regulation, & public health within integrated decision-making systems.
- India has already laid many of the foundations through water security reforms, renewable expansion, digital governance, & ESG regulation. The next step is institutional integration at scale.
- If we ensure that our planning, financing, & local governance systems reflect the realities of the water, energy, climate, & health nexus, India will not just meet global sustainability standards - it will help shape how they evolve.