

Why ESG/Net Zero Technology Projects failed

Root cause why ESG project unable to be maintained



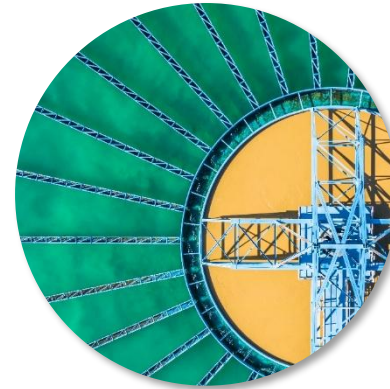
Business Case/Economic

- Company struggle to justify ROI for sustainability investment projects.
- Difficult to align short term cost vs long term investment.
- ESG/Net Zero Technology always be a cost center, long term sunk cost esp for SME
- Implementation roadmap still unclear.



Technologies Failure/ Insufficient Eco-system

- Outdated technology (better efficiency, lower cost) e.g., LiOn and NaCL battery
- Insufficient ecosystem to support new frontier technologies and industry player to develop supply chain.
- Technology is unable to scale up for lab scale to commercialization stage.
- Low adoption rate, unable to secure market/offtaker due to not competitive with conventional product/process.



National Policy supported/ Geopolitical

- ESG/Net Zero initiative required government support to offset its cost especially from early adopter.
- First mover is not benefit properly and/or no enforcement/benefit for decarbonization (some area)
- Geopolitical may accelerate/delay in ESG/Net zero technologies deployment e.g., renewable energy and bio-energy to reduce oil price impact



Workforce, Internal Process

- Sustainability/Net Zero talent shortage.
- Strategy failed when not embedded into process e.g., HR, supply chain and operation
- Budget limitation on green transformation

Struggle point (Net Zero/ESG Technology)

Budget, Technology, People, Process, KPI & Metrics

Budget

- Short term P&L pressure vs long term CAPEX. SME can't fund green CAPEX without incentive
- Struggle to scale up - Big companies started to consider commercial technology for R&D cost recovery.

Technology

- 3 layers of technologies failure:
 - Wrong technology choice
 - Right technology but wrong deployment timing
 - Right Technology but missing enabling infrastructure

Process

- ESG become a compliance and reporting process rather than an operational transformation
- Reporting trap – company invest heavily in building report (TCFD, SASB) that require significant data collection but doesn't change or have firm plan to reduce the emission

KPI & Metrics

- Many technology developer didn't link their product & services to SBTi and benefit with ISSB/IFRS S2 adoption to track actual GHG emission
- Company tend to measure inputs not outcome e.g., training session rather than carbon reduction per employee
- Measuring what's easy not what's material e.g., recycling rate vs scope 3 supply chain emission
- Fix -> upgrade to metric adoption easier to communicate with finance providers



People

- Global sustainability talent shortage in area of reporting, strategy, engineering and technology.
- Sustainability Tone at the top is not visible. Sustainability priority is lower than productivity when comparing production output, cost/unit vs Carbon/unit production.

Technology is a central strategic issue, encompassing everything from enhancing the customer experience to staying ahead of emerging tech. To stay ahead of contemporary issues, Deloitte's CIO Program has curated a list of business and technology priorities today's CTOs should have a position on to help create advantage for their organization.



Partner with tech C-suite for collaborative governance and planning to develop an **integrated tech strategy**



Balance need to quantify long-term **innovation and R&D impact** with value generation and risk considerations



Establish **standards in engineering and architecture** to drive consistency & scalability across the enterprise & product roadmap



Guide technical approach and emerging tech adoption for business-owned products and services



Evaluate and sponsor tech ecosystem relationships to enhance product and platform capabilities



Design technology solutions and platforms with **security, regulatory, and compliance requirements at the core**



Foster a strong technology workforce through tools, talent, and ways of working



Champion **ethical and sustainable technical standards** and practices



Monitor landscape to **identify tech trends** and align the company's tech strategy to the market



Serve as **technical storyteller** by articulating perspectives on tech and innovation