

INDIAN INSTITUTE OF TECHNOLOGY KHARAGPUR
RAJIV GANDHI SCHOOL OF INTELLECTUAL PROPERTY LAW
&
CENTRE OF EXCELLENCE IN PUBLIC POLICY LAW AND GOVERNANCE
in association with
TECHNOLOGY COUNSEL FOUNDATION
Organizes
One Day Online Symposium

"Regulating Emerging Technologies Through the Lens of Energy Efficiency"

29th November 2025

This symposium will explore the urgent need to regulate modern technologies from the perspective of energy efficiency and responsible energy usage. As technologies such as artificial intelligence, data centres, IoT devices, and blockchain continue to evolve, their energy demands have grown significantly—posing serious challenges to sustainability and climate goals. The lack of consistent regulations or industry standards around energy consumption has led to unchecked growth in electricity usage, contributing to increased carbon emissions and environmental degradation. The symposium will examine the environmental impacts of these trends, highlight case studies of energy-intensive technologies, and discuss the opportunities for policy intervention, industry-led standards, and innovation in sustainable design. Participants will also consider the roles and responsibilities of developers, corporations, and governments in ensuring that modern technologies are not only efficient and high-performing but also environmentally conscious. Through collaborative discussions and expert insights, the symposium will emphasize that regulating energy usage is not just a matter of compliance, but a strategic necessity for long-term resilience and sustainable progress in the tech-driven world.

Target Audience:

Polymakers, Regulators, Tech Industry Representatives, Energy Experts, Environmental NGOs, Academia

Goals:

1. Understand how emerging technologies (AI, BESS, Data Centres, IoT, Blockchain etc.) impact energy systems in India.
 2. Explore how energy efficiency principles can be embedded in the regulatory frameworks for new technologies.
 3. Develop practical recommendations for energy-efficient technology regulation.
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Design Notes

Key Technologies to Address:

- **AI & Data Centers:** Energy consumption, algorithmic efficiency, cooling.
- **Battery Energy Storage Systems (BESS):** Lifecycle efficiency, charging/discharging loss, grid impact.

- **IoT & Edge Computing:** Device proliferation, standby power, edge vs cloud trade-offs.
- **Blockchain & Web3:** Consensus mechanisms, proof-of-work vs proof-of-stake energy needs.

Guiding Questions for Discussions:

- How can regulation encourage energy-efficient design from the start?
- What trade-offs exist between innovation and sustainability?
- Can we mandate or incentivize minimum efficiency standards for new tech?
- How to balance reliability, performance, and energy use in regulatory frameworks?--