

Roadmap Penelitian (Petajalan Penelitian)

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I. Tahap I

Foundation Research

Fokus:

- pemetaan masalah
- penguatan basis data
- pengembangan metode
- publikasi dasar

Ilmu Lingkungan

- kualitas lingkungan
- perubahan iklim
- biodiversitas
- pencemaran
- pengelolaan limbah

Sistem Informasi

- big data lingkungan
- IoT monitoring
- GIS
- AI untuk lingkungan
- decision support system

Energi

- audit energi
- energi terbarukan
- efisiensi energi
- bioenergi
- mikrogrid

Output

- jurnal nasional
- jurnal internasional
- HKI
- model konseptual
- database penelitian

II. Tahap II

Development Research

Fokus:

- integrasi multidisiplin

- prototipe
- model kebijakan

Penelitian lintas prodi

Lingkungan × Sistem Informasi

- Smart Environmental Monitoring
- AI Climate Prediction
- Digital Twin Environment

Lingkungan × Energi

- Carbon Neutral Campus
- Circular Energy System
- Waste to Energy

SI × Energi

- Smart Grid
- Energy Analytics
- Intelligent Energy Management

Output

- prototype
- policy brief
- paten
- teknologi tepat guna
- kerja sama industri

III. Tahap III

Innovation Research

Fokus

- hilirisasi
- implementasi
- komersialisasi

Tema

- Smart Sustainable Area
- Green Industry
- Climate Adaptation
- Renewable Energy Ecosystem
- AI Governance
- Net Zero Emission

Output

- startup
- spin off
- paten internasional
- kebijakan nasional

- standar nasional

IV. Tahap IV

Global Excellence

Fokus

- kepemimpinan global
- inovasi internasional
- sustainability impact

Target

- World Class Research
- Global Partnership
- SDGs Leadership
- International Research Center

Output

- Center of Excellence
- Top Journal
- International Patent
- Global Policy Recommendation