Research Expertise

Environmental solutions

European Institute for Energy Research by EDF and KIT

Interdisciplinary approach
Economics, ecology, social sciences, geography, sustainability and environmental management combined to assess project impacts.

Team background
Natural sciences (agronomy, ecology, biology), humanities (economics, political science, territorial engineering, GIS) and data sciences.

Research topics

Ecosystems and Nature-based Solutions

- Natural carbon sequestration
- Nature-based Solutions
- Ecosystem management and restoration planning
- Analysis of effectiveness and co-benefits of ecosystem management and restoration

Assessment and valuation

- Ecosystem services assessment
- Environmental economics and accounting
- Local value creation assessment

Planning, policy and frameworks

- Territorial planning and forecasting
- Mitigation hierarchy / biodiversity net gain
- Biodiversity certificates
- Nature-positive
- Nature restoration law

Methods and skills

Qualitative research methods

- Stakeholder involvement and dialogue
- Policy analysis
- Systematic review

Quantitative research methods

- Input-output modelling
- Econometrics
- Capacity matrix for ecosystem services assessment
- Monetary valuation methods
- Cost-benefit analysis

Implementation and technical skills

- Software development and data sciences
- Onsite monitoring
- Project management

Impact dimensions we assess

- Health and well-being
- Local jobs and taxation
- Biodiversity gain
- Carbon
- Costs and financial indicators
- Ecosystem services
- Hydrosystem

Integrated through: cost-benefit analysis (CBA), accounting information systems, geographic information systems (GIS) and participatory GIS, visualization tools and dashboards.

Contribution to collaborative projects

- Identification, prioritisation, assessment (physical and monetary) and mapping of ecosystems, ecosystem services (ES) and actors involved in restoration
- Geo-spatial analysis (also PPGIS)
- Assessment of the socio-economic impacts of projects (local economies, employment) with regionalized input-output model and econometrics
- Onsite monitoring and multi-sensor networks implementation
- Restoration actions
- Policy analysis

Resources

- Databases
- Methodologies and tools
- Communication and management tools
- Lessons learned
- Socio-economic development experiments

Contact for joint proposals

Loraine Roy
+49 151 7056 7622 · loraine.roy@eifer.org

EIFER - Europäisches Institut für Energieforschung EDF-KIT EWIV
Emmy-Noether-Straße 11, 76131 Karlsruhe, Germany
www.eifer.org