Assessing climate & SDG synergies with

Low Emissions Analysis Platform

Climate & SDG Synergies
Virtual Learning Series

Webinar 2

How to Maximize Climate & SDG Synergies?

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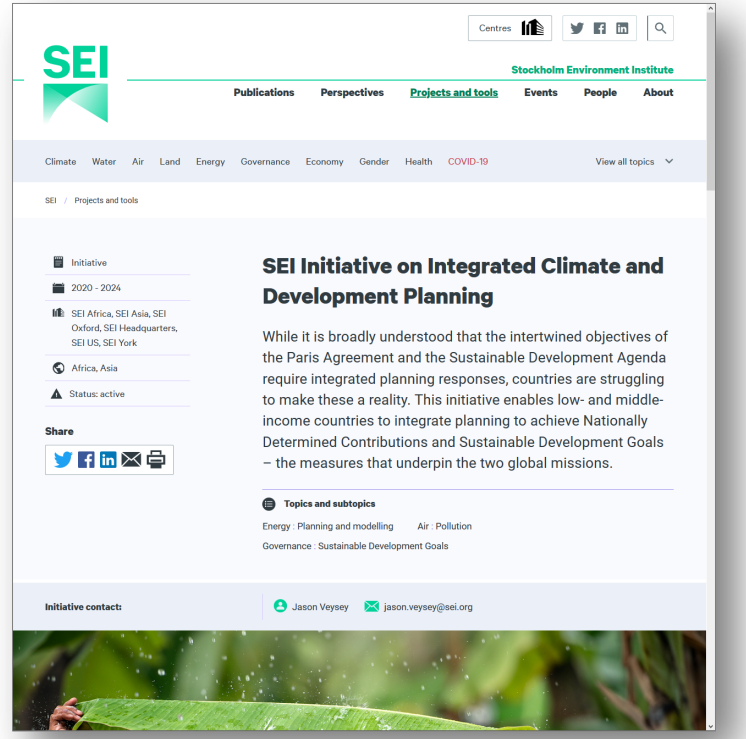
SEI's Integrated Climate and Development Planning Initiative

Enabling integrated planning for climate change mitigation and SDGs at national scale

- Developing methods, tools, models, and training and educational resources for integrated planning
- Focus on forward-looking, quantitative assessment of interactions between SDGs and NDCs
- Goal is to empower national practitioners, particularly in low and middle-income countries
- Timeline: 2020-2024

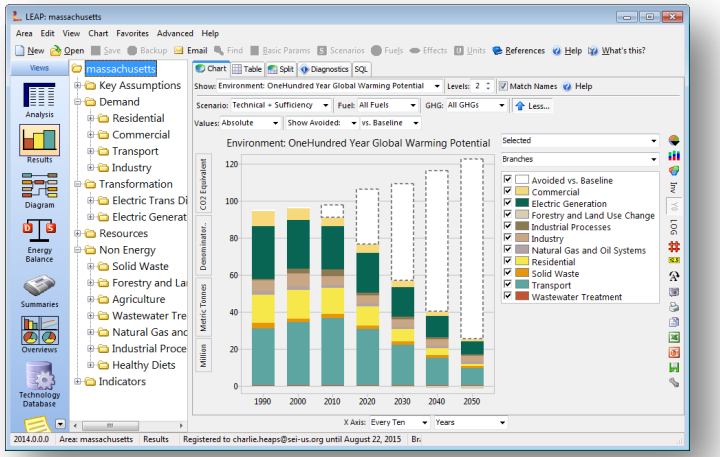


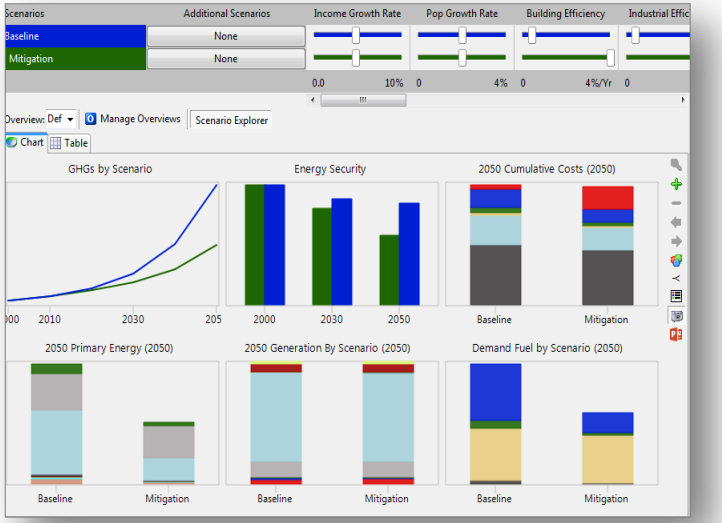
https://www.sei.org/projects-and-tools/projects/integrated-climate-and-development-planning/

Low Emissions Analysis Platform

- Desktop tool for quantitative modeling of energy systems, climate and air pollution, and sustainable development
- Key features include data and methodological flexibility, graphical user interface with powerful visualizations, scalability, scenario-based design
- Among most widely used modeling tools in world for national climate and energy planning (e.g. >30 first NDCs, dozens of national communications to UNFCCC)
- Available free of charge, with support, to government and non-profit users in low and lower-middle income countries (paid license for others)
- 40-year history, extensive community of practice (> 47k users)

https://leap.sei.org/





Climate & SDG quantification in LEAP

Areas of focus based on national partners' experience and feedback

Energy

- Multiple methods for energy system modeling – econometric, engineering, optimization
- Bottom-up analysis of energy access, technologies, efficiency

Climate

- Estimation of GHG and short-lived climate pollutant emissions from all sources
- Libraries of emission factors and template models implementing IPCC methods

Air pollution and health

- Downscaled atmospheric modeling used to calculate pollutant concentrations and exposure
- Impacts on human health, agricultural production, temperature

Gender

- Gender-disaggregated health impacts of outdoor and indoor air pollution
- Time burden of fuel collection and cooking

Climate & SDG quantification in LEAP

New developments in 2021

Diet, agriculture, and health

- Connections between diet, agricultural requirements, and impacts – malnutrition, overweight/obesity, premature mortality, pollution, land use, biodiversity

Waste and wastewater

- Health and climate benefits from improved waste management strategies

Macroeconomics

- National-scale macroeconomic modeling linked to climate and sustainable development scenarios
- Models based on econometric or structuralist methods
- Projections of output, employment, income distribution, economic structure

Transport health and safety

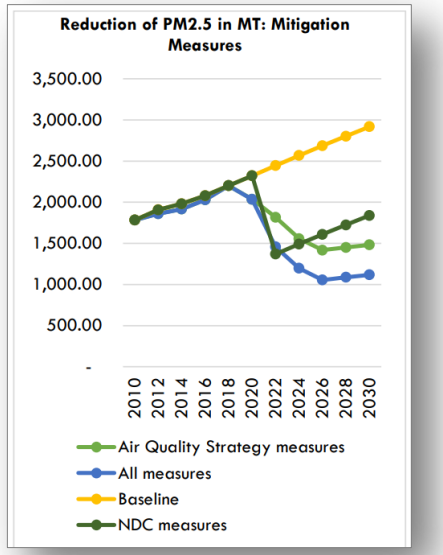
- Estimated deaths and injuries due to traffic accidents, health benefits of non-motorized transport

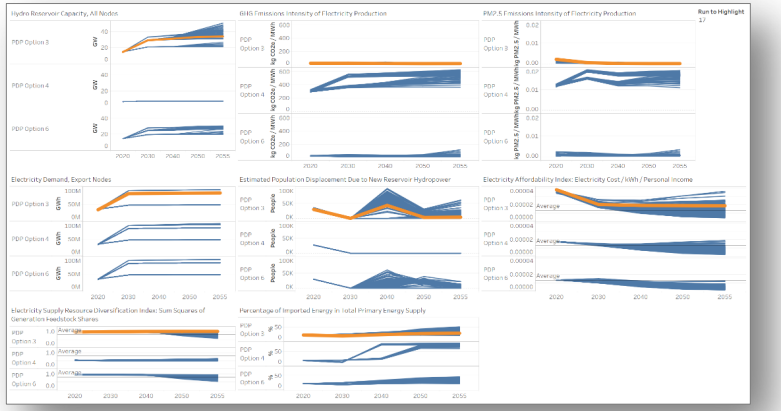
Training and capacity building

- SDG-focused training materials and pathways

Modeling to find synergies

- Scenario analysis
  - All climate & SDG quantification features in LEAP are embedded in LEAP's scenario modeling framework
  - Scenarios can be used to test policies and actions, simulate different external developments
  - Comparing scenarios in terms of climate & SDG objectives provides insights on synergies and trade-offs
- Robust decision making
  - Model used to simulate planning decisions in a large number of possible futures
  - Result set explored systematically to find low-regrets decisions – those that do a good job of increasing synergies and reducing negative trade-offs





Recent examples

- **Assessment of air pollution and health impacts of national climate change plans in Bangladesh**
  - Synergistic GHG reduction actions could avoid over 100k premature deaths in 2030
- **Sixth ASEAN Energy Outlook**
  - Modeling of SDG 7 attainment in 10 ASEAN member states
- **Integrated climate, air quality, and health planning in Nigeria**
  - Modeling provided a basis for collaboration among climate, environment, and economic development agencies