ENVIRONMENTAL DEGRADATION AND CLIMATE CHANGE

UN SDSN Greece and EIT Climate KIC Greece: The Interdisciplinary Challenge of Implementing Sustainable Development

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Sustainable Development:

Organizing principle for meeting human development goals, while sustaining the ability of natural systems to provide the natural resources and ecosystem services, upon which the economy and society depend.

Environmental Sustainability
Economic Sustainability
Social Sustainability

Sustainable development meets the needs of the present, without compromising the ability of future generations to do the same.
10 OCTOBER 2018 REPORT
Intergovernmental Panel on Climate Change (IPCC):

Urgency of limiting global warming to +1.5°C.

Beyond which risk of drought, floods, extreme heat and poverty for hundreds of millions of people, will significantly increase.

- We are on course for disastrous +3°C.
- We have **12 years left** until the point of no return. Most of us will still be alive then!
- Urgent and unprecedented changes are needed to reach the target. The target is affordable and feasible. The final tick box is political/policy will!

- **Transforming our world: the 2030 Agenda for Sustainable Development**
Greece Performance:
Index Score: 70.6
Regional Average 76.9
Overall Rank: 48 out of 156
A Global Network of:
Universities & Research and Innovation Centers
Businesses
Civil Society Organizations
Policy Making
Political Institutions

To support **SCIENCE DRIVEN** implementation of SDGs
www.unsdsn.gr
Co-Chairs
Prof. Phoebe Koundouri
Prof. Andreas Papandreou

Leadership Council
Business, NGOs, Policy Making, Politicians

3000+ universities & research institutions
2000+ companies and NGOs worldwide

CROSS-CUTTING THEMES

Natural Capital Valuation & Integration in Sustainable Investment Allocation
Climate Change: Mitigation and Adaptation Policies
Sustainable Development in Times of Crisis

THEMATIC PRIORITIES

Sustainable Shipping and Marine Resources Management
Sustainable Energy and Energy Security
Sustainable Water-Food-Energy Nexus
Sustainable Tourism and Biodiversity
Education and Training Courses in Sustainable Development
Cluster of Institutions

- Climate-KIC
- EIT
- ATHENA
- Research & Innovation
  Information Technologies
- Sustainable Development
  Solutions Network
- A Global Initiative for the United Nations
- SDSN Greece
- Hosting Institutions
- Ekonómikon Panepistímiou
  Áthnon
- Athens University
  of Economics and Business
- Research laboratory on
  Socio-Economic and
  Environmental Sustainability
  ReSEES
- National and Kapodistrian
  University of Athens
- PESD
- ICRES
- International Centre for Research
  on the Environment & the Economy
- ΜΟΥΣΕΙΟ ΓΟΥΛΑΝΔΡΗ
  ΦΥΣΙΚΗΣ ΙΣΤΟΡΙΑΣ
- World Human Forum
- Convergences Greece Forum

01.04.2019
Our Projects, currently 100 researchers

- Marine Coastal Management
- Water Food Energy Nexus
- Renewable Energy
- Climate Change
- LR Discount Rate & CBA
- Biodiversity
- Forest Management
- Waste Management
- Nuclear Energy

- €100+ million of research funding from: European Commission (DG RTD, DG MARE, DG ENV, DG ENER, DG REGIO), International Organizations (World Bank, OECD, EBRD, WHO, FAO, UN), Governments in all 5 continents, etc.
- 1000+ peer-reviewed research papers & books
The UN SDSN- Greece scientific approach:
Holistic and Interdisciplinary
Research Focus:

Achieving Natural Resources, Economic, Social Sustainability

by developing scientific & methodologically sound approaches to recognizing, demonstrating and capturing the Total Economic Value of natural resources and other public goods

and integrating this TEV in implementable sustainable management solutions, while recognizing the interdisciplinary nature of the challenge.
Aim: Allocation of scarce resources across people, over time & space, while EnvS, EconS, SocialEquity achieved.

**FRAMEWORK CHARACTERIZATION**
- Natural Resources,
- Socio-Economic
- Institutional
- Stakeholders

**MODELS ON INTERACTION**
Dynamic, Spatial, Uncertainty
- Nature
- Society
- Economy

**EMPIRICAL APPLICATION of MODELS**
Estimation of Economic Value
OPTIMAL ALLOCATION based on Value

**How?**
- Socio-Economic, Legal Instruments
- Technological Innovations
- Social and Institutional Innovations
- Nature Based Solutions
- Infrastructural Solutions

**STRATEGIC MANAGEMENT PLANS & POLICY RECOMMENDATIONS:**
Stakeholders engaged & convinced throughout the process
Total Economic Value

Use Value
- Actual Use Value
  - Direct Use Value
  - Indirect Use Value
- Option Value
Non Use Value
- Existence Value
- For Others
  - Bequest Value
  - Altruistic Value
- **TEV**: systematic tool for considering full range of impacts on human welfare.
- **TEV**: reflects the preferences of individuals, which can be statistically estimated.
- **TEV**: essential for resource allocation and policy making.
IPCC (2007) wrote: “In most instances, objective probabilities are difficult to estimate. ...a number of climate change impacts involve health, biodiversity, and future generations, and the value of changes in these assets is difficult to capture fully in estimates of economic costs and benefits..... The literature on how to account for ambiguity in the total economic value is growing, even if there is no agreed standard.”
Our Books

Hundreds of Applied Projects
Demonstrations and Implementation of Results
Transforming innovation into climate action
EIT Climate-KIC is a European knowledge and innovation community working to accelerate the transition to a zero-carbon economy through whole systems transformation.

The EIT Climate-KIC is part of the European Institute of Innovation and Technology (EIT) and the EIT Community.

The EIT is a body of the European Union and a global innovation leader, delivering world class solutions to societal problems.
EIT Climate KIC Europe is Building a Movement of Climate Action

- Convening networks of expertise
- Leveraging Grants Smartly & Effectively
- Developing People & Capacity
- Catalysing Innovation

300+ leading partners

> €550m investment attracted to start-ups

> 2,000 full-time jobs created

17,000 participants in our education activities

1,000+ innovative start-ups

€2.5bn climate funding leveraged

367 new products and services
Transforming innovation into climate action
EIT Climate - KIC
Core Programs
EIT Climate KIC Accelerator - Greece

- Offers structured **business and commercial support** to European start-ups in the new climate economy. It is a **real-world business school** for clean tech entrepreneurs

- Offers coaching, training, technology validation and office space

- Selected start-ups benefit from funding, exposure to customers, partners and investors as well as access to an extensive relevant international network

https://www.climate-kic.org/programmes/entrepreneurship/accelerator/

- **Stage 1: Fundamentals**
  Develop a **financial model** and figure out how to make money and scale your business. This stage comes with a grant of up to €10,000.

- **Stage 2: Validation**
  Are you solving real customer problems? **Talk to customers and verify your business assumptions**. Grants in Stage 2 could add **up to €15,000**.

- **Stage 3: Delivery**
  Find launching customers, development partners or investors. Form partnerships that make you grow fast. Get **up to €50,000**.
EIT Climate-KIC Greece ongoing EU funded projects

The consortium will work together for the participation of the Greek EIT Climate KIC hub in various EU Calls

- Promote decentralized energy production
- Foster innovative solutions tackling air pollution for the improvement of public health

Virtual Incubation, Mentoring, Pitching Events for CleanTech Startups

- Soft skills startup training
- Develop New Business Models (PPPP) based on Circular Economy for Climate Change Resilience

BRIGAID: BRIdging the GAp for Innovations in Disaster resilience

DG RTD, Budget: 9,000,000 euro

Figure 1.1: BRIGAID’s conceptual approach with three types support for innovations
INNOVATIONS FOR CLIMATE CHANGE ADAPTATION

the EU reference marketplace where end-users and innovators can meet

Share your innovation

Show innovations | All Hazards | All Topics | View by Most Recent

Disasters and ICT | Water Safety
MyFloodRisk (for business)

Disasters and ICT | Urban Areas
3C for Cities

Agriculture | Disasters and ICT
ARIEL, soil moisture retrieval by microwave remote sensing
Pioneers into Practice

• Climate-KIC’s professional mobility program
  Operates in over 16 locations across Europe

• Professionals from industry, small companies, universities, municipalities, governance, are offered an innovative blend of e-learning, workshops, coaching and placements by Host organizations active in the field of sustainability.

• Practical experience through 4 - 6 week placements

• 1 day International Workshop

https://pioneers.climate-kic.org
Climathon

A global movement dedicated to solving the toughest climate challenges cities face today.

This is manifested in a **24-hour hackathon** taking place simultaneously in major cities around the world.

Citizens, city officials and partners connect under a shared vision for a healthier city and try to find innovative solutions.

In 2018, 4 Climathons took place in Greek cities under the auspices of EIT Climate-KIC Hub Greece (Athens, Piraeus, Heraklion, Larissa)

https://climathon.climate-kic.org/en/
Education and Training

International, Regional, National Conferences, Workshops, Training Seminars & Research, Policy, Business Events

Athens
Next Climathon Event - 26 October 2018

Advanced Policy Workshop in Sustainability and Resource Valuation
28 June 2017
Athens, Greece
Under the auspices of SDSN Greece

5th GLOBAQUA Training Course
Economics of Sustainable Water Management in accordance to the Water Framework Directive, the Millennium Ecosystems Assessment & Sustainable Development Goals of the UN Agenda 2030
19-20 February 2018
Athens, Greece
Under the auspices of SDSN Greece

RDA Fisheries & Aquaculture Datathon
ICRE8 Workshop
19 June 2017
Athens, Greece
Innovative Multi-purpose offshore platforms: planning, design & operation

http://www.h2ocean-project.eu/

http://www.mermaidproject.eu/

http://www.troposplatform.eu/
The Value of Distant Benefits & Long-Term Discount Rates

funded and endorsed by: EC DG ENV, World Bank, EPA USA

Governments Europe and Easter European Countries

- Humanity has the ability to make development sustainable: to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs.
  WCED, 1987

- There is something awkward about discounting benefits that arise a century hence.. For even at a modest discount rate, no investment will look worthwhile.
  The Economist, 1991
OpenAIRE is the European online network that makes research output openly accessible to all.

It is all about sharing, reusing and linking research information.

Our Vision
An SDG E-library for Greece, Europe, Global

An Open Science directory of all past 20 years completed and ongoing projects, research publications, data and related models relevant to the 17 SDGs

immediate & long-term benefits to:
Research Communities
Research Organizations
Funders, industry, Policy Making and... society
Coming Soon:
• MSc Energy Law and Economics
• Greek Sustainability Report
• Sustainability Summit, with the Economist, 16-17 Oct. 2019

Our Ongoing Projects

Institutional Support