



Energy & Resources Forum III

**Transitioning to a Sustainable World:
Challenges and Opportunities**

March 18th, 2024

Rolex Learning Centre, EPFL

INTRODUCTION

It is scientifically recognized that human activities have led to the exceeding of six out of nine planetary boundaries. Staying on our current path will inevitably lead to unprecedented and irreversible climate changes. The very existence of a habitable planet and a healthy biosphere are at stake and the possibility to reverse this evolution diminishes from day to day.

Fortunately, science not solely contributes to a better understanding of these issues but also identifies innovative pathways to overcome them. Together with industrial and political stakeholders, science undertakes efforts to transform our current ways of living such that humanity can thrive in harmony with our planet and a transition to a sustainable world becomes feasible. At the moment, however, a few challenges are left out of the spotlight. This is why this year's Energy & Resources Forum will try to highlight several of the crucial insights of the energy transition.



Transdisciplinarity

The Energy & Resources Forum has the goal of bringing together key stakeholders from science, business, policy, and activism to envision a sustainable energy future within the resource boundaries of our planet.

Sustainable Solutions

We believe that when our audience faces the complexity of the revolutionary changes humanity must address in the near future, they will be encouraged to take concrete steps toward shaping a more sustainable future.

ERF II

Before diving into the structure of the third edition of ERF, let us take a moment to point out the accomplishments of ERF II. This summary will provide you with an insight into our past endeavours.

During ERF II, our venue was the SwissTech Convention Center located on the EPFL Campus in Lausanne. The event featured in-depth discussions on a range of subjects, including Oceans, Soil, Policy, Cities, and Materials. Notably, ERF II saw a strong participation from both students and professionals deeply involved in the relevant industries.

ERF II Speakers

- Adèle Thorens, Member Council of States in Switzerland
- Bastien Sachet, PDG Earthworm Foundation
- Frédéric Le Manach, Scientific Director, Bloom Association
- Katja Seidenschnur, ESG Director Zone Europe, Nestlé
- Nils Epprecht, Director of the Schweizerische Energiestiftung SES
- Paul Luu, Executive Secretary of the International "4 per 1000" Initiative
- Philippe Thalmann, Professor EPFL

N.B. The list is not exhaustive

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 **Energy Center**

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ET ÉLECTRIQUE DE DÉCHETS

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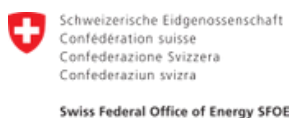
The 2024 ERF III edition will feature a series of panels, workshops, and a debate covering 6 major themes, involving technical, social, and financial aspects. The panels will be moderated by Karin Frei, partner at komet-beratung and owner of CommonGround Communications GmbH, while the debate will be moderated by Sascha Nick, CO2-monitor CEO, EPFL scientist, and BSL professor.

Panels will see 3-4 speakers with different backgrounds and representing various interests (public administration, private sector, activists, academics) cooperating to address a single issue; each speaker will hold a 10-15 minutes-long presentation, followed by a question-and-answer session. The **Debate** will be hosted by two experts with roughly same competences but different opinions. Finally, **workshops** will consist of interactive activities where the audience will have the opportunity to be confronted to a more hands-on approach.

We have outlined the topics proposal for the various activities below:

- RES-based technologies and grid integration
- Materials for the energy transition
- The future of land transport
- Design for sustainability / the environment
- Funding innovations for the energy transition
- Economy for the transition to a sustainable future

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PROGRAM

What are the limits of Innovation and Technology in transitioning to a sustainable future?

Understanding the complexity of the joint effort of technology, legislation, and consumer behaviour in shaping our future

Panel: Can We Power the World With 100% Renewable Energy?

Grid integration of renewable energy conversion technologies: challenges to overcome when swiftly integrating non-dispatchable energy sources in the electricity mix

with

Christian Petit, CEO of Romande Energie, Distribution System Operator company

Mario Paolone, Full Professor at EPFL, Distributed Electrical Systems Laboratory

Nell Reimann, ENTSO-E, association of the European Electricity TSOs (non-profit-organisation)

Roger Nordmann, Swiss National Counselor, author of PV Strategy for Switzerland 2050

10h30

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12h00

12h00

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13h30

Free-of-Charge **Standing Lunch** (50 places only!)

Panel: Materials for the Energy Transition

Extracting, processing, and recycling of materials for the renewable energy conversion technologies, transportation, and buildings

with

Amrita Dasgupta, Energy and Minerals Analyst, International Energy Agency (IEA)

Vincent Moreau, Researcher at EPFL, Material Flow Analysis

Christian Ochsenbein, Head of Swiss Battery Technology Center

13h30

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14h45



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Panel: The Future of Land Transport

15h00

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16h30

The replacement of Conventional Combustion Vehicles: challenges and opportunities. What choices should the individuals and the automotive industry take and what should the political guidelines be when envisioning a low-carbon transportation system?

with

Carlo De Grandis, EU Commission, Directorate-General for Climate Action, promote clean mobility, including CO2 standards for road transport

Giovanni Mori, Former spokesperson of Fridays for Future, Italy

Luca Castiglioni, Head of Mobility Research for the Swiss Federal Office of Energy, Vice-Chair Transport to the End-Use Technologies Working Party (EUWP)

Olivier Gallay, Full Professor of Operations Research at UNIL University of Lausanne

Workshop 1: Design for Sustainability (40 places)

5 Rules to follow for a "Design for the Environment (DfE)"

with

Yohanna Rieckhoff, Independent designer, Teaching Assistant in Master of Product Design, ECAL

16h45

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17h45

Workshop 2: How is Innovation Contributing to the Energy Transition?

Technical and financial innovations for the energy transition

with

The Enterprise for Society Center (E4S)

Debate: From Inequality to Sustainability: The Essential Steps

What would a better society look like, and how to build one, from multiple perspectives

with

Julia Steinberger, Professor of Societal Challenges of Climate Change at UNIL, Lead Author for the IPCC's 6th Assessment Report

Simone D'Alessandro, Professor of Economics at the University of Pisa, Italy, Coordinator of the Ph.D. in Economics of the Tuscan Universities, a joint initiative by the Universities of Florence, Pisa and Siena

18h00

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19h00

ABOUT US



We are the Zero Emission Group, a student-led initiative aimed at raising awareness and working with stakeholders on and beyond the EPFL and UNIL campuses to catalyze sustainable actions.

Founded in 2019, we are a growing group of students at EPFL and UNIL concerned by the consecutive scientific reports on global warming, and we all share a strong will to bring science-based solutions to this issue.

Contact us

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Visit us

zeroemission.group
energy&resources.forum

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