



**ISETS**  
INTERNATIONAL SOCIETY FOR  
ENERGY TRANSITION STUDIES

# ISETS NEWSLETTER 2023 Q2

## CONTENTS

**01 PREFACE**

**03 ORGANIZATION DEVELOPMENT**

**04 KNOWLEDGE-SHARING**

**07 EVENTS IN Q2**

**09 UPCOMING EVENTS**

# PREFACE

Welcome to the Newsletter 2023 Q2 of the International Society for Energy Transition Studies (ISETS)! We are delighted to bring you this platform dedicated to fostering knowledge exchange, sharing insights, and promoting dialogue on the critical topic of energy transition.

ISETS is pleased to announce that **Mr. Nobuo Tanaka**, former Executive Director of the International Energy Agency (IEA), has accepted the invitation from the ISETS Council to serve as Co-Chair of the ISETS [Advisory Committee](#). Meanwhile, **Professor Hisashi Yoshikawa**, a Project Professor at the Graduate School of Public Policy at the University of Tokyo, has accepted the role of advisor.

The inaugural ISETS international conference will be held by the International Society for Energy Transition Studies, in cooperation with the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) between 14-19 October 2023 at the United Nations Conference Centre, Bangkok. The plenary sessions and the Third Asian and Pacific (Ministerial) Energy Forum (APEF3) on October 18th-20th 2023 will be key components of [the Asia Pacific Energy Week](#).

Papers submitted to the inaugural ISETS international conference have the opportunity to publish in one of the special issues of 7 supporting journals including **Energy Economics, Applied Energy, Journal of Climate Finance, Chinese Journal of Population, Resources and Environment, Frontiers in Environmental Science, Economic Change and Restructuring and Utilities Policy**. Qualified papers will be invited to submit to the suitable journal based on recommendations by the guest editors and editors. Please note that the recommendation does not guarantee final publication, all regular requirements by journals have to be satisfied.

ISETS is pleased to launch the first [International Youth Voice Competition](#) for the Just Energy Transition. This competition targets youth aged **between 18 and 25 years old from any part of the world**. The winners of the competition will be invited to attend the international youth dialogue at [the Inaugural ISETS International Conference](#). Please share this information with your networks.

ISETS also provides a platform for thought leadership and academic insights. As we embark on this exciting journey, we invite you to actively engage with us. Share your working paper, policy brief, and commentary; and participate in discussions, debates, and knowledge-sharing initiatives. We look forward to the exciting insights and discoveries. Thank you for joining us on this path towards a more sustainable and resilient energy future.

Sincerely,

ISETS Executive Committee

# ORGANIZATION DEVELOPMENT

## ANNOUNCEMENT OF MR NOBUO TANAKA AS CO-CHAIR AND MR HISASHI YOSHIKAWA AS ADVISOR OF THE ADVISORY COMMITTEE

The International Society for Energy Transition Studies (ISETS) is pleased to announce that Mr. Nobuo Tanaka, former Executive Director of the International Energy Agency (IEA), has accepted the invitation from the ISETS Council to serve as Co-Chair of the ISETS Advisory Committee. Meanwhile, Professor Hisashi Yoshikawa, a Project Professor at the Graduate School of Public Policy at the University of Tokyo, has accepted the role of advisor.

Mr. Nobuo Tanaka currently serves as the Chairman of the steering committee of the Innovation for Cool Earth Forum (ICEF), established by former Prime Minister Shinzo Abe in 2014. Starting his career in 1973 at the Ministry of Economy, Trade and Industry (METI), he has held various high-ranking positions, including Director-General of the Multilateral Trade System Department. During his tenure as the Executive Director of the International Energy Agency (IEA) from 2007 to 2011, he initiated a collective release of oil stocks. While serving as the Minister for Industry, Trade, and Energy at the Embassy of Japan in Washington DC, he played a significant role in bilateral trade issues with the US. Additionally, he has twice served as the Director for Science, Technology, and Industry (DSTI) at the Paris-based international organization, OECD. Currently, as the CEO of Tanaka Global Inc, he provides advisory services to several Japanese and international companies.

# KNOWLEDGE-SHARING

## OPPORTUNITIES AND CHALLENGES OF FLEXIBILITY TECHNOLOGIES FOR ACHIEVING A NET-ZERO ELECTRICITY FUTURE IN CHINA

ISETS and the Centre for Research on Energy and Clean Air (CREA) jointly released this report on 3 April 2023. The main objective of this report is to develop some insights into these questions by delving into the viewpoints and perspectives held by key energy stakeholders in China. These insights will enable the identification of differing interests and cross-cutting issues that need to be addressed, to facilitate consensus building and ensure a rapid uptake of various flexibility technologies. The method adopted in this report is a combination of literature review and expert survey. The main points arising from the analysis conducted in the report are presented below.

- There exists a range of technologies that can help Chinese system operators to manage abrupt changes in electricity supply and demand. Some key technologies include coal power flexibilisation, -pumped hydro, battery storage, green hydrogen, thermal energy storage, and demand-side response.
- Gas-fired power plants, although widely considered as a reliable and dispatchable complement to support the integration of large renewable energy into the grids, are only expected to play a limited role in China. This is mainly due to concerns about high and volatile gas prices and import dependence, exacerbated by geopolitical complexities and domestic instabilities of gas-exporting countries.
- Deeper power connectivity, facilitated by harmonised regulatory and market arrangements across different provinces of China, would enable better cross-provincial balancing and capacity sharing, allowing more effective sharing of complementary renewable resources that are often distributed unevenly across the country. However, the implementation of necessary market and regulatory reforms remains challenging, implying that power connectivity cannot be considered an immediate solution to support further expansion of renewable generation in China.

The full report is available at: <https://isets.org/isets-reports/>

# ENERGY TRANSITION INDEX FOR 282 CHINESE CITIES

Yifan Shen, Xunpeng Shi, Zhibo Zhao, Yongping Sun, Yuli Shan

Cities' transition from fossil-based systems of energy production and consumption to renewable energy sources—the energy transition—is critical to mitigating climate change impact as cities' energy consumption and CO<sub>2</sub> emissions account for two-thirds and over 70% of the world's total, respectively. Given cities' heterogeneity, they need specific low-carbon roadmaps instead of one-size-fits-all approaches. Here, we present an **Energy Transition Index (ETI)** to characterize the city-level energy transitions for 282 Chinese cities from 2003 to 2016. Following the World Economic Forum, the ETI includes two sub-indexes: the system performance index that measures the maturity of the current energy system to improve system structure and environmental sustainability and the transition readiness index that evaluates the presence of an enabling ecosystem, namely, economic development, capital, technology, and human resources, for effective energy transitions.

## STRANDED FOSSIL-FUEL ASSETS TRANSLATE TO MAJOR LOSSES FOR INVESTORS IN ADVANCED ECONOMIES

The distribution of ownership of transition risk associated with stranded fossil-fuel assets remains poorly understood. We calculate that global stranded assets as present value of future lost profits in the upstream oil and gas sector exceed US\$1 trillion under plausible changes in expectations about the effects of climate policy. We trace the equity risk ownership from 43,439 oil and gas production assets through a global equity network of 1.8 million companies to their ultimate owners. Most of the market risk falls on private investors, overwhelmingly in OECD countries, including substantial exposure through pension funds and financial markets. The ownership distribution reveals an international net transfer of more than 15% of global stranded asset risk to OECD-based investors. Rich country stakeholders therefore have a major stake in how the transition in oil and gas production is managed, as ongoing supporters of the fossil-fuel economy and potentially exposed owners of stranded assets.

# **IDENTIFYING AND ANALYZING THE REGIONAL HETEROGENEITY IN GREEN INNOVATION EFFECT FROM CHINA'S PILOT CARBON EMISSIONS TRADING SCHEME THROUGH A QUASI-NATURAL EXPERIMENT**

China has initiated a carbon emissions trading scheme (ETS) in some pilot regions to promote green innovation by local industrial firms. Nevertheless, not all pilot ETSs can effectively stimulate local green innovation, considering the differences in regional economic development as well as the design of the ETS. With this in mind, we develop a computerized methodology to empirically identify and analyze the regional heterogeneity in the green innovation effect from the ETS through a quasi-natural experiment. First, we propose a mathematical framework to empirically identify the regional heterogeneous effect of ETS on green innovation based on the synthetic control method. Then we construct a moderating effect model to verify the influencing mechanism of regional external factors on the heterogeneous green innovation effect of the ETS. Finally, we develop a framework for causal inference using a dynamic effect model to estimate the regional heterogeneous green innovation effect from the ETS, which varies over time.

## **BEHAVIORAL AND FINANCIAL COPING STRATEGIES AMONG ENERGY-INSECURE HOUSEHOLDS**

Millions of Americans are regularly unable to pay their energy bills. For these Americans, avoiding being shut off from their electricity service is a daily challenge and one that requires them to take financial and behavioral risks, such as acquiring utility debt or burning trash to generate heat. In this study, we find these techniques to be prevalent and often used in combination. We also find that households with young children and those with individuals who rely on electricity to power their medical devices are more likely to use these coping techniques, as are households with deficient housing conditions. There are, however, efforts that the government can undertake to help these especially vulnerable populations.

## EVENTS IN Q2

### 1. THE 10<sup>TH</sup> AND 11<sup>TH</sup> ISETS ENERGY TRANSITION FORUM

The 11<sup>th</sup> ISETS Energy Transition Forum with the theme of “Exploring the Frontiers of Corporate Energy Transition”, was held on 28 April 2023 in Wuhan, Hubei University of Economics. The conference is co-organized by International Society For Energy Transition Studies (ISETS), the Collaborative Innovation Center for Carbon Emissions Trading, the School of Low Carbon Economy of Hubei University of Economics, and the School of Economics of Zhongnan University of Economics and Law, and co-organized by the Energy Finance Alliance of ISETS and the Climate Finance Research Branch of Chinese Society of Optimization, Overall Planning and Economic Mathematics, and hosted by the Collaborative Innovation Center for Carbon Emissions Trading.

The 10<sup>th</sup> ISETS Energy Transition Forum--Build a flexible, safe and clean power system, which was organized by ISETS, was held on April 6, 2023. The conference focuses on the following questions: What technology solutions can be used to improve the flexibility of the power system in China? What are the main issues with adopting these flexible technologies in terms of technological economy, market and regulation? And more importantly, how do you solve these problems?

More details are available at: <https://isets.org/the-eleventh-isets-energy-transition-forum/>.

### 2. THE 1<sup>ST</sup> FORUM ON CARBON NEUTRALITY AND CLIMATE FINANCE WAS SUCCESSFULLY HELD IN CHENGDU

On May 27, 2023, the first Forum on Carbon Neutrality and Climate Finance was successfully held in Chengdu. The forum, with the theme of "Climate Change, ESG and Corporate Behavior", was hosted by the Studies of Climate Finance, Chinese Society of Optimization, Overall Planning and Economic Mathematics, the Energy Finance Professional Committee of the



International Society for Energy Transition Studies (ISETS), and hosted by the TIERS from Southwestern University of Finance and Economics.

### **3.2023 INTERNATIONAL CONFERENCE ON CLIMATE AND ENERGY FINANCE (ICEF) WAS HOSTED BY THE BUSINESS SCHOOL, HUNAN UNIVERSITY IN CHANGSHA, CHINA, ON 2-4 JUNE, 2023**

This conference was co-organized by ISETS. The conference focuses on “New Trends in Climate Finance under the Carbon Neutrality Target”. This year, more than 500 scholars from over 120 Universities in China, Singapore, Japan and the U.S. participated in the conference, and 59 offline sessions were successfully organized to explore new ideas and cutting-edge research.

Since 2018, the International Conference on Climate and Energy Finance has been successfully held six times, with participants coming from more than 150 universities in 21 countries and regions. ICEF conferences have been included in the Guide to Major Academic Conferences of the China Association for Science and Technology for four consecutive years, playing an important role in promoting the development of climate and energy finance disciplines and talent training in China.

# UPCOMING EVENTS

## 1. ISETS YOUTH VOICE COMPETITION FOR JUST ENERGY TRANSITION

Call for participation

Youth voice matters!

Over 70% of global greenhouse gas emissions are from the energy sector. To achieve the net-zero goals by 2050, a transition from fossil fuels to clean energy is critically needed, despite the enormous challenges and difficulties involved. Accomplishing a just energy transition requires creative thinking and collaborative actions. In the global community, younger generations have demonstrated stronger determination and greater activism in the fight against climate change. Amplifying their voices and encouraging them to take actions align with the objectives of ISETS and the UN in pursuing just energy transition.

Initiated by the ISETS and in collaboration with the UN ESCAP, we are pleased to announce the launch of the first International Youth Voice Competition for the Just Energy Transition. ISETS and ESCAP are collaborating to organize the Asia-Pacific Energy Week from 16-20 October 2023. This event will provide an opportunity to include the youth voice at regional energy deliberations. This competition targets youth aged between 18 and 25 years old. Its primary aim is to inspire youth from different countries, genders, backgrounds, and ethnic origins to present innovative ideas and engage in an international dialogue against climate change. The winners of the competition will be invited to attend the international youth dialogue at the Inaugural ISETS International Conference in Bangkok, Thailand, from October 16 to 18, 2023.

More information can be found [here](#)

## 2. THE INAUGURAL ISETS INTERNATIONAL CONFERENCE

The inaugural ISETS international conference will be held by the International Society for Energy Transition Studies, in cooperation with the Energy Division of the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) between 14-19 October 2023 at the United Nations Conference Centre, Bangkok.

The Conference will be held alongside the Third Asia Pacific Energy (Ministerial) Forum on 18-20 October 2023 and together they form key parts of the Asia Pacific Energy Week. The key findings and recommendations from the ISETS conference are expected to be channelled to the subsequent ministerial forum.

The Conference will cover a wide range of energy and environmental issues of interest to academia, analysts, policy-makers and industry participants and beyond.

Keynote panels and other plenary sessions that bring together ministers and senior officials from ESCAP member countries and leaders from industries, think tanks, NGOs, multilateral organisations, and the academic community will facilitate dialogue on key policy issues on the energy transition and climate change.

Call for paper & sessions can be found [here](#).

---

## About ISETS

The International Society for Energy Transition Studies (ISETS) is a worldwide non-profit professional organisation based in Australia, which has members in 50+ nations and more than ten international organisations.

ISETS was founded on 16 June 2020 through the Founding Declaration signed by a group of 31 energetic and internationally acclaimed professionals who have extensive experiences in energy, environment and other sustainable development issues.

ISETS aims to facilitate an equitable and inclusive transition of energy and relevant sectors toward a sustainable low-carbon future with consideration of economic development, social equity, and environmental stewardship through international partnerships.

### Social Media Platforms

YouTube Channel: @isets2020

Twitter: @isets2020

WeChat



LinkedIn:

<https://www.linkedin.com/company/intsets/>

