

# Jinyong (Edward) Sung

University of Technology Sydney (UTS)  
Institute for Sustainable Futures (ISF)  
UTS Building 10, 235 Jones St, Ultimo, NSW 2125

Mobile: (424)-787-066  
Email: [jinyong.sung@uts.edu.au](mailto:jinyong.sung@uts.edu.au)  
Profile: <https://profiles.uts.edu.au/jinyong.sung>

## Profile

---

- ✓ PhD Candidate (UTS Research Excellence Scholarship recipient) at UTS Institute for Sustainable Futures (ISF)
- ✓ +10 years of work experience in corporate finance and management consulting at Global energy/financial companies and the U.S. Top-tier/Ivy League education; and Bilingual in English and Korean
- ✓ Core competencies<sup>1</sup>: Machine/Deep Learning; Energy/Financial modelling; Corporate Strategic Planning

## Education

---

**University of Technology Sydney, Institute for Sustainable Futures** Sydney, NSW, Australia  
**Ph.D.** in Sustainable Futures – Energy, specialising in Energy Economics, Policy & Modelling Feb 2022 - Aug 2025  
*Research on innovative hybrid machine/deep learning and econometric modelling for energy economics and policy*

- Supervisory panel
  1. Principal supervisor: Prof. **Xunpeng (Roc) Shi** (PhD in Economics; UTS Australia-China Relations Institute)
  2. Co-supervisor: A/Prof. **Sven Teske** (PhD in Engineering & Economics; UTS Institute for Sustainable Futures, Energy)
  3. Research advisor: Senior Lecturer **Mengheng Li** (PhD in Econometrics; UTS Business School - Economics Discipline Group)
- Research field subject result: Econometrics (Grade: High Distinction)

**Johns Hopkins University – MBA/MA Dual Degree**, specialising in Energy & Finance

**Johns Hopkins School of Advanced International Studies (SAIS)** Washington, DC., USA  
**M.A.** in Int'l Economics & Int'l Relations with a focus on Energy, Resources, & Environment May 2013

**Johns Hopkins Carey Business School** Baltimore, MD / Washington, DC., USA  
**MBA** with a focus on Finance & Energy and Environment Dec 2012

**Brown University, School of Engineering** Providence, RI, USA  
**M.S.** in Innovation Management and Entrepreneurship Engineering May 2008

**Purdue University, College of Engineering** West Lafayette, IN, USA  
**B.S.** in Industrial Engineering (Major) & Mathematics (Minor) May 2007

## Fields of interest

---

Energy Economics and Policy, Machine and Deep Learning, Time Series Analysis, Applied Economics

## Research

---

### Publication (Job market paper)

- Sung, J., Shi, X., Teske, S., & Li, M. (2024). Chinese Natural Gas Phase-Out Pathways: A Novel Hybrid Scenario-Specific Projection Approach to Achieve Net Zero. *Accepted, Energy, 2025*

### Working papers

- Sung, J., Shi, X., Teske, S., & Li, M. (2024). Identifying key natural gas drivers towards China's carbon neutrality through a novel temporal shrinkage framework. *Submitted (Under Review)*
- Sung, J., Shi, X., Teske, S., & Li, M. (2024). A hybrid SARIMAX-LSTM model optimised by ANN for near-term forecasting: An application to China's Natural Gas consumption. *Submitted (R & R)*
- Sung, J. (2025). Opportunities for Australia amid China's Carbon-Neutral Transition: Input-Output Approach with Analysis of Australian Renewable Potential *Submitted (Under Review)*

### Non-academic work

- Shi, X. & Sung, J. (2023). Australia's natural gas security policy spills over the region. [East Asia Forum post](#)

---

<sup>1</sup> VETASSESS, an Australian government agency of vocational assessment, acknowledged my professional experience as management consulting skills.

## Awards

---

- Australian Government Research Training Program Stipend (**UTS Research Excellence Scholarship** for highly ranked, newly-commencing doctoral students) / Fee Offset Scholarship, UTS, 2022-2025
- **Vice Chancellor's Conference Fund 2024** of the 41<sup>st</sup> USAEE/IAEE Conference, UTS, 2024
- **Certificate of Appreciation** in recognition of high-performing work at SK advanced (SK Group's Chemical arm), 2017
- **SAIS Summer Internship Fund**, Johns Hopkins School of Advanced International Studies, 2012
- **Research Assistantship**, Johns Hopkins Carey Business School, 2010F, 2011S

## Professional experience

---

- UTS Institute for Sustainable Futures** Sydney, NSW, Australia  
Research Consultant 2025 - Present
- Developing financial models of an organic waste-based bioenergy project and Analysing its financial viability through analysis of CAPEX, OPEX, ROI, revenue forecasts, and sensitivity scenarios.
- EMS Trust** (specializing in investing in education biz & commercial/residential properties) Sydney, NSW, Australia  
Investment Director & Co-founder 2018 - 2021
- Developed investment opportunities in commercial and residential properties, as well as in the education sector; Operated the Trust; and Devised new investment strategies in e-learning and online businesses.
  - Developed a management system for the education business; Managed its finances and human resources; and Created a comprehensive in-house management system, including invoicing, based on Excel and financial modelling.
- Mazars Global Infrastructure Finance Pty Ltd** Sydney, NSW, Australia  
Project Manager, Model Build Team 2017 - 2018
- Built and audited financial models, and delivered financial modelling training courses to clients globally
  - Modelled renewable energy projects (solar and wind) in Australia and internationally, oil and gas (O&G) projects in the global upstream/midstream sector, a public-private partnership (PPP) project in Gold Coast, Australia, a smelting project in Indonesia, and a corporate model for a mobile services company in Australia.
  - Acted as the communication channel with Mazars' Seoul office for potential energy and infrastructure projects in South Korea
- SK Advanced** (Chemical arm of SK Group; 3-party JV: APC(KSA Chem)-PIC(Kuwaiti Chem)-SK Gas) Seoul, S. Korea  
Strategy & Planning Manager, Management Planning Team 2015 - 2017
- Provided management support and analysis (e.g., operational due diligence, analytics, decision modelling) to align the interests of board members and shareholders, and performed valuation analyses for the acquisition of infrastructure facilities.
  - Devised a joint venture (JV) implementation plan – including valuation – to establish a three-party JV with two Middle Eastern chemical companies, APC (Saudi Arabia) and PIC (Kuwait), resulting in the successful formation of the JV.
  - Collaborated closely with JV board members from Korea, Saudi Arabia, and Kuwait to prepare and review the JV agreement and share purchase agreement, and helped establish the JV's financial/business systems and transaction guidelines.
  - Facilitated in-house corporate business training for junior staff and new joiners.
- SK Gas** (Energy arm of SK Group, 3<sup>rd</sup> Korean conglomerate/top 100 in Fortune Global 500) Singapore/Seoul, S. Korea  
Strategy & Planning Manager (Employed by SK Global MBA recruitment), Corporate Strategy team 2013 - 2015
- Revamped financial and economic analytics for the company's \$1B petrochemical (PDH) business; developed a merchant LPG trading business model in collaboration with the company's trading teams in Houston and Singapore.
  - Performed due diligence for the establishment of a \$4B, 2GW coal-fired power plant JV; initiated valuation analyses for a 500 MW LPG power plant in Honduras and 1 MW solar and 1 MW fuel cell power plants in Korea and the U.S.
  - Devised a long- and mid-term plan to optimize LPG logistics; evaluated the impact of declining oil prices on the company's overall business strategy.
- Center for Climate and Energy Solutions** (Top-tier U.S. think tank on Global Climate Change) Arlington, VA, USA  
Policy Analyst (MBA/MA Summer Intern), International Policy Research Team 2012 (3 months)
- Participated fully in the research of market-based policy instruments in the carbon emission market in Brazil, China, S. Africa, and S. Korea, resulting in improving the knowledge of the global carbon emission market.
- Johns Hopkins Carey Business School** Baltimore, MD, USA  
Research Assistant under Prof. Mitsukuni Nishida (awarded a Research Assistantship) 2010 - 2011
- Modelled the relationship between economic development and utility infra. growth in emerging countries in Asia.
- Choong Ang Biotech Co., Ltd** Seoul, S. Korea  
Equity Financing Project Manager, Strategic Planning Team 2009 - 2010
- Executed a \$13M paid-in capital increase, successfully achieving the company's equity financing target

- Developed equity financing strategies and supervised investor presentations for shareholders and key prospective investors, resulting in the attraction of a \$6M investment fund.

**Hanwha Investment & Securities** (Financial arm of Hanwha Group, 10<sup>th</sup> Korean conglomerate) Seoul, S. Korea  
Associate, Investment Banking II Team (Employed by Hanwha Global recruitment) 2008 - 2009

- Conducted due diligence, developed capital financing strategies, and delivered presentations to CEOs, executives, and shareholders, resulting in 10 successful capital financing agreements.
- Planned and authored 20 capital financing prospectuses and managed post-issuance follow-up, leading to the implementation of 20 capital financing projects, including Hanwha Chemical's \$290M paid-in capital increase, Hanil E&C's \$50M capital raise, Samyang Optics' \$10M bond with warrant (BW) issuance, and Gamehi's \$17M convertible bond (CB) issuance.
- Demonstrated expertise as a financial advisor through the successful completion of an \$11M M&A project (backdoor listing).

**NAVER Corporation** (Korean internet conglomerate) Seoul, S. Korea  
Summer Intern (Employed by the U.S. Internship Recruitment), Market Strategy Team 2007 (3 months)

- Assessed competitors' marketing strategies; and Evaluated the social impact of online advertising.

## **Professional training and coaching experience**

### **Financial modelling trainer, Mazars Global Infrastructure Finance Pty Ltd**

- Best Practice Project Finance Modelling 2017 - 2018
- Excel Diploma 2018

### **New employee trainer, SK Advanced**

- Understanding of the Propane De-Hydrogenation (Petrochemical) business 2015 - 2017

## **Presentations**

The 41<sup>st</sup> USAEE/IAEE Annual Conference in Baton Rouge, LA, USA 2024

The 2<sup>nd</sup> ISETS Annual Conference in Nanjing, China

The 34<sup>th</sup> CESA Annual Conference in Adelaide, Australia

Seminar (invited guest speaker) in Beijing Institute of Technology, China

Seminar (invited guest speaker) in Yonsei University, South Korea

Knowledge Sharing session in UTS ISF

Knowledge Sharing session in ACRI 2023

Knowledge Sharing session in UTS Australia-China Relations Institute (ARCI) 2022

## **Postgraduate (PhD) training**

Advanced-level training in Dynamic CGE modeling using GTAP/GEMPACK, *M&S Research Hub, Germany* Jun 2023

Introductory to Intermediate-level training in CGE modeling using GTAP/GEMPACK, *M&S Research Hub, Germany* May 2023

Time Series Analysis, *UTS Economics Discipline Group* Aug 2022 - Dec 2022

Econometrics, *UTS Economics Discipline Group* Aug 2022 - Dec 2022

## **Additional information**

Skills: **Python - Deep/Machine Learning (Master)**, MS Excel/VBA, Matlab, MS PowerPoint, GAMS, Power BI, HTML

Citizenship & Residency status: South Korean citizen and Australian permanent resident

References: **Professor Xunpeng (Roc) Shi**

Research Principal, Australia-China Relations Institute,  
University of Technology Sydney (UTS)  
Address: 18/15 Broadway, Ultimo, NSW 2007, Australia  
Email: Xunpeng.Shi@uts.edu.au  
Phone: +61 2 9514 8953

**Associate Professor Sven Teske**

Institute for Sustainable Futures, UTS  
Address: UTS Building 10, 235 Jones St, Ultimo,  
NSW 2007, Australia  
Email: Sven.Teske@uts.edu.au  
Phone: +61 2 9514 4950