



## Soh Young In

Research Engineer

Civil and Environmental Engineering

 Curriculum Vitae available Online

### Bio

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#### BIO

Soh Young In is the Research Director of Sustainable Finance at the Stanford Global Projects Center (GPC). She is also leading research on Financial Innovation at the Sustainable Finance Initiative (SFI) of the Precourt Institute for Energy. Her research interest is to align the financial system with a low-carbon economy, and to catalyze sustainable finance. Her research supports investors, entrepreneurs and policymakers to drive positive social and environmental impact alongside financial results. At Stanford, she focuses on the explicit and systematic inclusion of environmental, social, and governance (ESG) issues in investment analysis and decision makings. Her research agenda includes: (1) clarifying risk-return opportunities of incorporating ESG factors (at various asset levels including global, country, sector, firm), (2) enhancing ESG data, risk metrics and management, and (3) creating a clean energy investment ecosystem. Her research leverages an interdisciplinary approach that combines engineering, finance, economic and policy aspects of sustainability, so as to effectively address the pressing, complex global problem of climate change.

Soh Young won a research award from the United Nation Environment Programme Finance Initiative (UNEP FI), and the US Clean Energy Education and Empowerment (C3E) Award by the US Department of Energy (US DOE). Her project on an innovative clean energy investment platform design received grants from the Stanford Precourt Institute for Energy, Bank of America, and Lawrence Berkeley National Laboratory and the US DOE. Her work has also received extensive media coverage such as Stanford Engineering Magazine, WIRED Magazine, Indexology by S&P Dow Jones and Sustainable Insight Capital Management, and been invited by multiple academic and industry communities. Soh Young completed her PhD in the Civil and Environmental Engineering at Stanford University, MA in International Policy Studies at Stanford, concentrating in Energy, Environment and Natural Resources, and BA in Economics and Statistics from Columbia University.

#### ACADEMIC APPOINTMENTS

- Research Engineer, Civil and Environmental Engineering

#### HONORS AND AWARDS

- Research Fund, The United States Department of Energy (DOE) and Activate Energy (2019)
- Research Fund, Bank of Korea (2020)
- Research Fellowship, Google (2020)
- Seed Research Grant, Stanford Center for Integrated Facility Engineering (CIFE) (2020)
- Emerging Scholar Award, International Conference on Climate Change: Impacts and Responses, Common Ground Research Networks (2018)
- Clean Energy Education & Empowerment Poster Awards, Department of Energy, MIT Energy Initiative and Stanford Precourt Institute for Energy (2017)
- Fellowship, Behavior, Energy & Climate Change, Stanford Precourt Energy Efficiency Center, Berkeley Energy and Climate Institute (BECI) (2017)
- Seed Research Grants (Two Academic Years), Stanford Precourt Institute for Energy (2017)

- Research Grants on “Clean Energy Finance”, Bank of America and Stanford Precourt Institute for Energy (2017)
- Research Award on “Aligning Investment Portfolios with a Low Carbon Economy”, United Nations Environment Programme (UNEP) Financial Initiative (2016)

## **BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS**

- Financial Innovation Lead, Precourt Institute for Energy, Stanford University (2019 - present)
- Research Director of Sustainable Finance, Global Project Center, Stanford University (2019 - present)
- Knowledge Network, Boston Consulting Group (2020 - present)
- Organizing Committee, Global Research Alliance for Sustainable Finance and Investment (2020 - present)

## **PROFESSIONAL EDUCATION**

- PhD, Stanford University , Civil and Environmental Engineering (2019)
- M.A., Stanford University , International Policy Studies (Academic Concentration: Energy, Environment, and Natural Resources) (2015)
- B.A., Columbia University , Economics (major), Statistics (minor) (2008)

## **SERVICE, VOLUNTEER, AND COMMUNITY WORK**

- Editor, Stanford Energy Journal
- Organizing Committee, Engineering Project Organization Society (EPOS) Early Career Forum
- Founding Member, Community of Practice in Export Credit Agencies
- Volunteered Instructor in Economics, Junior Achievement Korea

## **Research & Scholarship**

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### **CURRENT RESEARCH AND SCHOLARLY INTERESTS**

My research encompasses engineering, economics and public policy. It focuses on clean energy finance and entrepreneurship. My current research projects (1) investigate clean investment performance in the capital market; (2) analyze networks between investors and entrepreneurs; and (3) aim to create an innovative investment vehicle for clean technology startups. My ultimate aim is to catalyze private capital in clean energy so that the world can transition more rapidly to a low-carbon economy.

My latest research on “Is “Being Green” Rewarded in the Market?: An Empirical Investigation of Decarbonization and Stock Returns” won a research award from the United Nations Environment Programme (UNEP) Financial Initiative, Portfolio Decarbonization Coalition, the Sovereign Wealth Fund Research Initiative and Trucost (S&P Dow Jones Indices). My co-authors and I provide viable information for investors, who increasingly prioritize climate finance and look for investment opportunities that offer high returns with high environmental impact. We analyze 74,486 observations of U.S. firms’ public stocks from 2005 to 2015 using portfolio analysis and asset pricing models, and empirically examine the relationship among firm-level carbon intensity, stock returns, and firm characteristics. We find that such investment opportunities do exist and are even common, indicating that investing in carbon-efficient firms can be profitable even without government incentives.

My current research projects, jointly under the theme of “An Integrated Control Tower: Unlocking Long-Term Investment Capital for Clean Energy Innovation,” won research grants for next 2 years from Bank of America, Stanford Precourt Institute for Energy, Lawrence Berkeley National Laboratory, and Government of Canada. In the first paper, I define all relevant actors (investors, entrepreneurs, and various institutions) in clean energy and evaluate their network patterns using network analysis and organizational design. Based on this paper, I propose a follow-up study that develops a blueprint of a new investment intermediary that could achieve high investment returns through a multi-strategy vehicle that better aligns risks with investors. The objective of these combined projects is to mobilize large-scale sustainable capital investments for the clean energy industry.

## Teaching

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### COURSES

#### 2021-22

- Sustainable Finance and Investment Seminar: CEE 157, CEE 257 (Aut)

#### 2020-21

- Sustainable Finance and Investment Seminar: CEE 157, CEE 257 (Aut)

#### 2019-20

- Sustainable Finance and Investment Seminar: CEE 157, CEE 257 (Spr)

## Publications

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### PUBLICATIONS

- **Mobilising Institutional Investor Capital for Climate-Aligned Development**  
Halland, H., Dixon, A. D., In, S., Monk, A. H., Sharma, R.  
OECD Development Centre. Paris, France.  
2021 ; OECD Development Policy Papers (No. 35):
- **Financing Energy Innovation: The Need for New Intermediaries in Clean Energy** *SUSTAINABILITY*  
In, S., Monk, A. B., Knox-Hayes, J.  
2020; 12 (24)
- **Financing Energy Innovation: The Need for New Intermediaries in Clean Energy**  
In, S., Monk, A., Knox-Hayes, J.  
Sustainability.  
2020 ; Sustainability (12(24)): 10440
- **Institutional Investors Find Alpha in Climate Risk Matrices: Global Survey Finds**  
Moudrak, N., Bakos, K., Eyquem, J., O'Reilly, H., Monk, A., In, S.  
Intact Centre on Climate Adaptation, Global Risk Institute and Stanford Global Project Center.  
2020
- **Drivers of Successful Exit: Experience from the Early-Stage Hard-Tech Energy Investment in the US Market**  
In, S., Monk, A., Lee, J.  
Available at SSRN 3726781.  
2020
- **Economics of Climate Change**  
In, S., Park, K.  
Available at SSRN 3704761 .  
2020
- **Pricing Climate-Related Risks of Energy Investments**  
In, S., Weyant, J. P., Manav, B.  
Available at SSRN 3736415 .  
2020
- **Looking Back, Looking Forward: Scientometric Analysis on 47 Years of Sustainability Research**  
In, S., Eccles, R. G., Lee, Y.  
Available at SSRN 3693254 .  
2020
- **What Does Carbon Data Tell You (or Not)?**  
In, S., Park, K., Eccles, R. G.

Available at SSRN 3754098.

2020

- **Financial Innovation for Energy Innovation**

Monk, A., In, S.

The Brown Journal of World Affairs.

2020 ; The Brown Journal of World Affairs

- **Integrating Alternative Data (Also Known as ESG Data) in Investment Decision Making** *GLOBAL ECONOMIC REVIEW*

In, S., Rook, D., Monk, A.

2019

- **Is 'Being Green' Rewarded in the Market? An Empirical Investigation of Decarbonization Risk and Stock Returns**

In, S., Park, K., Monk, A.

Stanford University. Stanford, USA.

2018 ; Stanford Global Projects Center Working Paper Series

- **Is 'Being Green' Rewarded in the Market? An Empirical Investigation of Decarbonization Risk and Stock Returns** *Energy Forum*

In, S., Park, K., Monk, A.

2017: 46-48

- **An Integrated Control Tower: Coordinating and Unlocking Investment Capital for Clean Energy**

In, S., Monk, A., Levitt, R.

Precourt Institute for Energy, Stanford University..

2017 ; Clean Energy Finance Forum 2017 Solution Paper

- **A Decision Framework for Successful Private Participation in the Airport Sector** *Journal of Air Transport Management*

In, S., Casemiro, L., Kim, J.

2017; 62: 217-225

- **Applying Relational Governance to Private Investment in Public Infrastructure**

In, S., Sharma, R., Monk, A.

Global Project Center at Stanford University.

2017 ; Working Paper

- **Global Urbanization Trend and Challenges Facing Mature Mid-Size Cities: The Case of Busan, South Korea**

Kin, J., Singham, S., In, S., Bennon, M.

Global Project Center at Stanford University. Stanford, USA.

2015 ; Working Paper

- **Do Export Credit Agencies Benefit the Economy** *Stanford International Policy Review*

In, S.

2014

## PRESENTATIONS

- Global Finance Journal Meeting (co-hosted by Development Bank of Japan) on “CSR, the Economy, and Financial Markets” (11/9/2017 - 11/10/2017)
- Bank of America-Stanford Precourt Institute for Energy Forum on “De-risking Decarbonization: Overcoming Investment Barriers to Global Clean Energy Deployment” (11/1/2017)
- Journal Banking and Finance Meeting (co-hosted by NYU and Univ. of Nottingham) on "Financial Innovation, Stability and Sustainable Growth" (8/31/2017 - 9/2/2017)
- Stanford Institute for Theoretical Economics (SITE) Workshop, Session 4—"New Thinking about Economic Challenges in the Design and Implementation of Programs to Stabilize the Climate" (8/8/2017 - 8/10/2017)
- International Association for Energy Economics (IAEE) Conference on “Meeting the Energy Demands of Emerging Economics, Implication for Energy and Environmental Markets” (6/18/2017 - 6/21/2017)
- Engineering Project Organization Conference (held in conjunction with International Megaproject Workshop) on “Theory Meets Practice” (6/5/2017 - 6/7/2017)
- Engineering Project Organization Conference on “Building Resilience” (8/28/2016 - 8/30/2016)

- Session Chair and Presenter, Session 6: Asset Pricing: Information, Diversification and Decarbonization, Journal Banking and Finance Meeting (co-hosted by NYU and Univ. of Nottingham) (8/31/2017 - 9/2/2017)
- Session Chair, Session 3A: Megaproject Management I, Engineering Project Organization Conference (6/5/2017 - 6/7/2017)
- Session Chair, Session 6B: EPOS and Megaprojects: Past Work and Future Directions, Engineering Project Organization Conference (6/5/2017 - 6/7/2017)