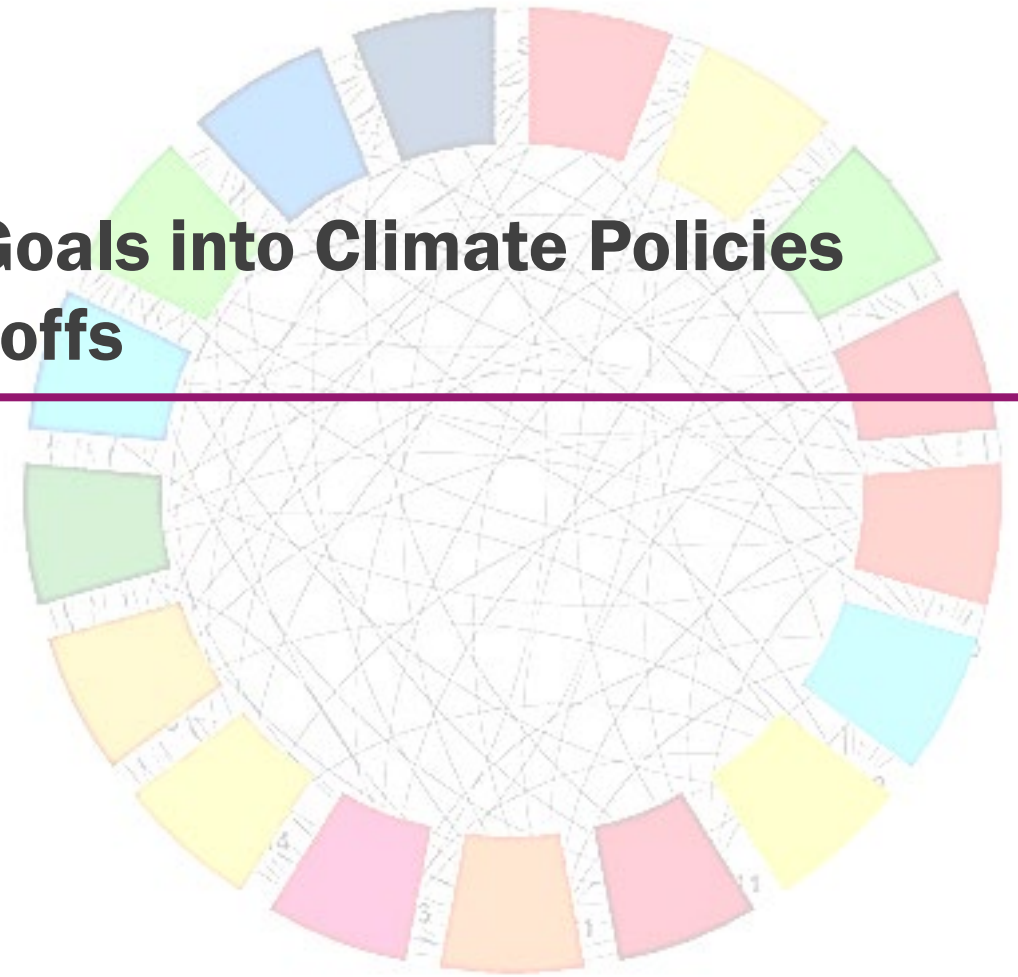


# Integration of Sustainable Development Goals into Climate Policies to Enhance Synergies and Manage Trade-offs

**Dr. Xin Zhou**

Research Director of Integrated Sustainability Centre  
Institute for Global Environmental Strategies (IGES)

*2024 Executive Training Course for Policymakers on the 2030 Agenda for Sustainable Development:  
Aligning the 2030 Agenda and the Paris Agreement—Integrating SDG Implementation and Climate Action  
United Nations Office for Sustainable Development (UNOSD), Incheon, Republic of Korea, 7-10 May 2024*



# Sustainable Development Goals: An Interacted and Indivisible System



# Importance of SDG Integrated Planning and Implementation

- 🌐 A shift from a siloed approach to an integrated approach
- 🌐 Importance of understanding the SDG interlinkages for integrated planning and implementation:
  - *How will achieving one SDG impact on achieving others and how strong are the impacts?*
  - *How countries are different in SDG interlinkages?*
  - *What are the policy implications for leveraging the synergies and minimizing the trade-offs.*

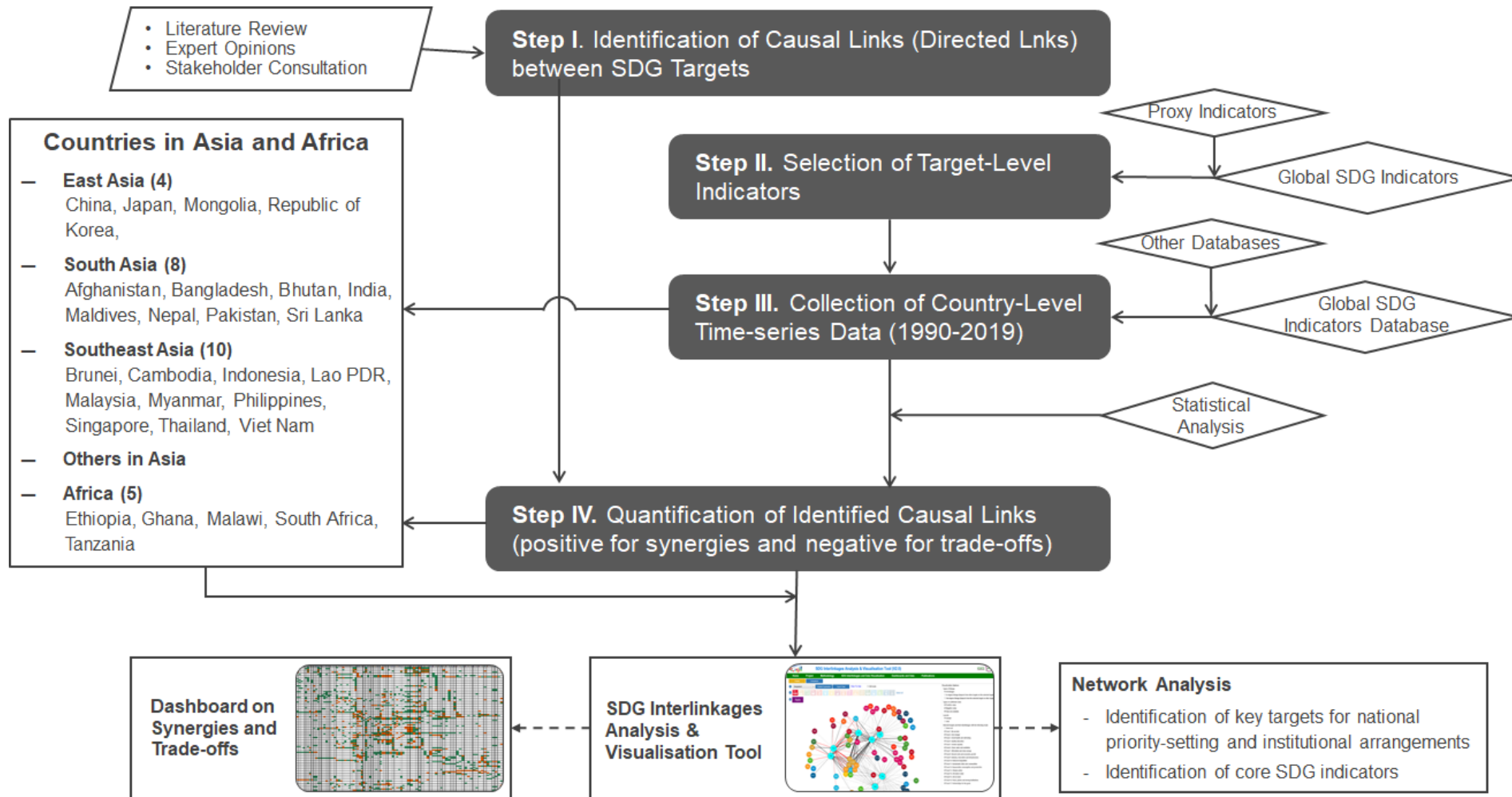


# Goal 13 Climate Action: Cuts Across All SDGs and Policy Integration

- Goal 13 Climate Action, cutting across all SDGs, requires an integration of the SDGs into climate policymaking.
- Such an integrated approach is new and challenging:
  - Broad coverage of social, economic and environmental dimensions and many sectors;
  - Complex interactions among 169 targets.
- Limited scientific knowledge on climate-SDG interlinkages impedes integrated policy making.



# SDG Interlinkages Analysis Methodology and Tool



Source: Zhou, et al., 2017, 2018, 2019, 2021 (<https://sdginterlinkages.iges.jp/methodology.html>)

# SDG Interlinkages Analysis & Visualisation Tool (4.0)

(<https://sdginterlinkages.iges.jp/visualisationtool.html>)

<https://sdginterlinkages.iges.jp/visualisationtool.html>

- The Tool covers 27 countries including 22 countries in Asia and 5 countries in Africa.
- Users can select a country and targets and visualise the interlinkages of selected targets with other targets.
- Using the Edit Mode, users can save their selections and results or add new linkages or new targets of their own.
- Using Visualisation Options, users can show the interactions from one or both directions, and positive or negative linkages, etc.

# Usage of SDG Interlinkages Tool (November, 2022)

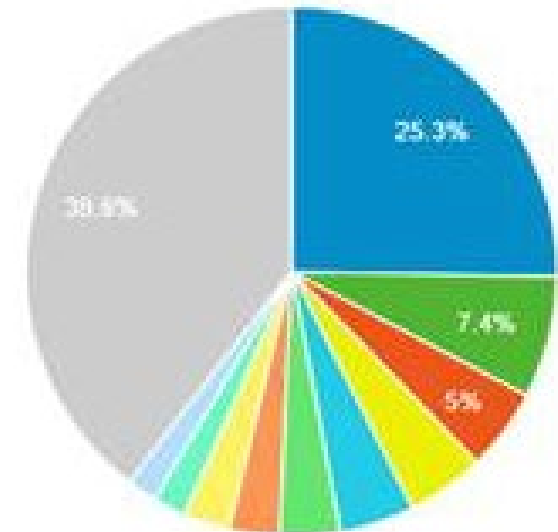
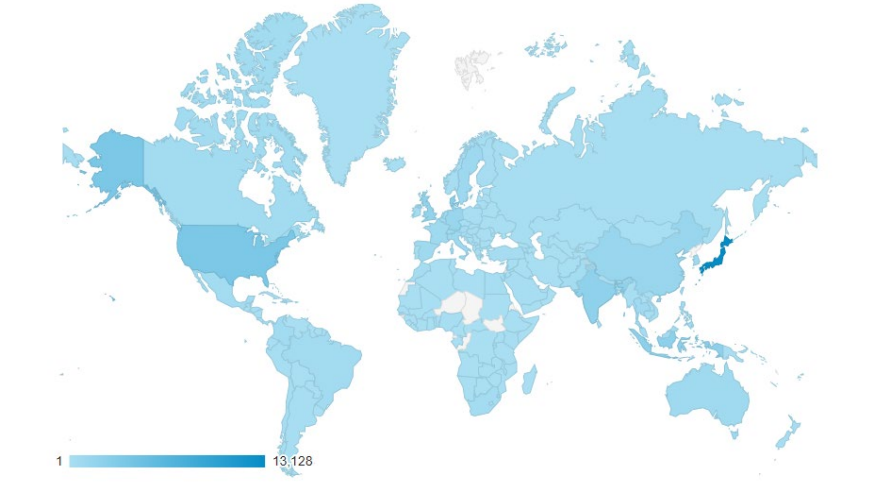
## Total Usage of the Tool

- Accessed from **192 countries** since its launch in 2017.
- Total access: **130,000**

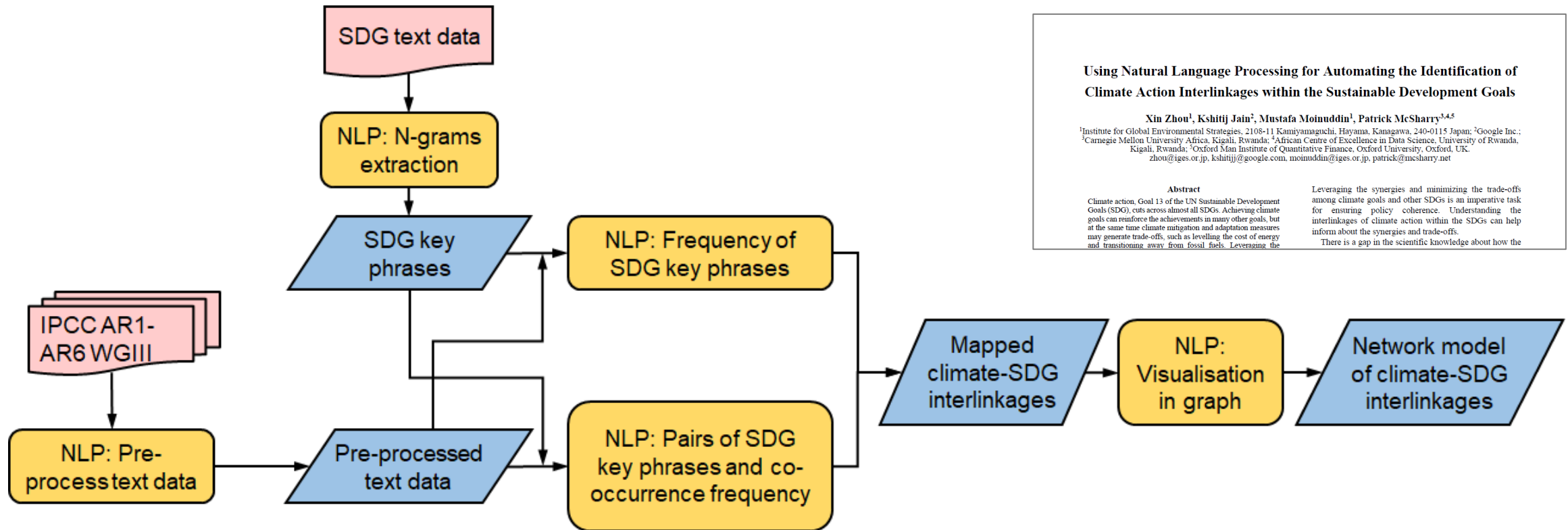
## Top 10 Countries

- Increased access worldwide
- More than three-fourth accesses from outside of Japan

1.		Japan
2.		United States
3.		Indonesia
4.		Denmark
5.		India
6.		United Kingdom
7.		China
8.		Germany
9.		Italy
10.		Netherlands



# Systematic Mapping Climate Action-SDG Interlinkages using Natural Language Processing Techniques



**Using Natural Language Processing for Automating the Identification of Climate Action Interlinkages within the Sustainable Development Goals**

Xin Zhou<sup>1</sup>, Kshitij Jain<sup>2</sup>, Mustafa Moimuddin<sup>1</sup>, Patrick McSharry<sup>3,4,5</sup>

<sup>1</sup>Institute for Global Environmental Strategies, 2108-11 Kamiyamaguchi, Hayama, Kanagawa, 240-0115 Japan; <sup>2</sup>Google Inc.; <sup>3</sup>Carnegie Mellon University Africa, Kigali, Rwanda; <sup>4</sup>African Centre of Excellence in Data Science, University of Rwanda, Kigali, Rwanda; <sup>5</sup>Oxford Man Institute of Quantitative Finance, Oxford University, Oxford, UK.  
zhou@iges.or.jp, kshitij@google.com, moimuddin@iges.or.jp, patrick@messharry.net

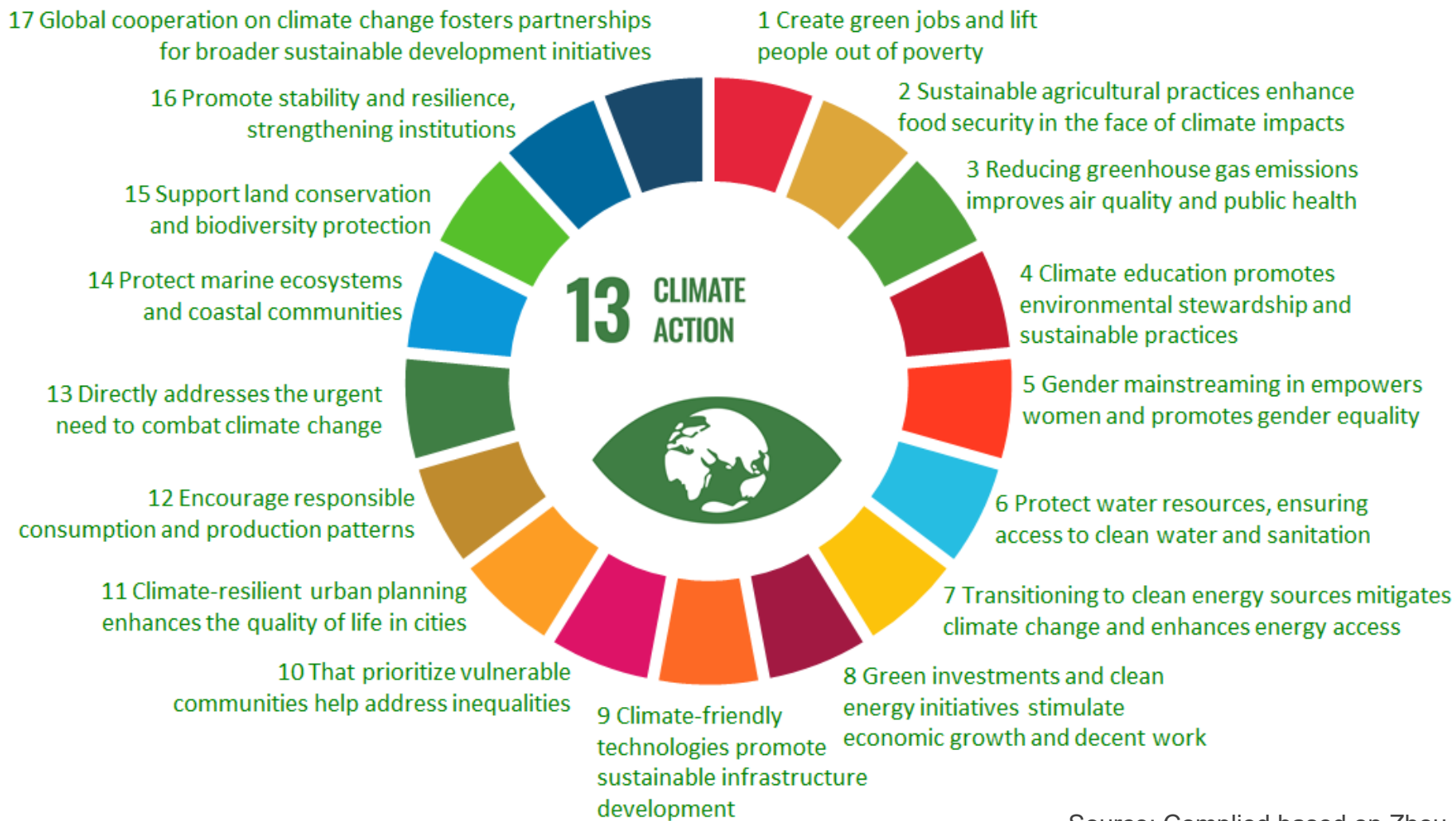
**Abstract**  
Climate action, Goal 13 of the UN Sustainable Development Goals (SDG), cuts across almost all SDGs. Achieving climate goals can reinforce the achievements in many other goals, but at the same time climate mitigation and adaptation measures may generate trade-offs, such as leveling the cost of energy and transitioning away from fossil fuels. Leveraging the synergies and minimizing the trade-offs among climate goals and other SDGs is an imperative task for ensuring policy coherence. Understanding the interlinkages of climate action within the SDGs can help inform about the synergies and trade-offs. There is a gap in the scientific knowledge about how the

Source: Modified based on Zhou, et al., 2022 (<https://www.climatechange.ai/papers/aaaifss2022/23>).



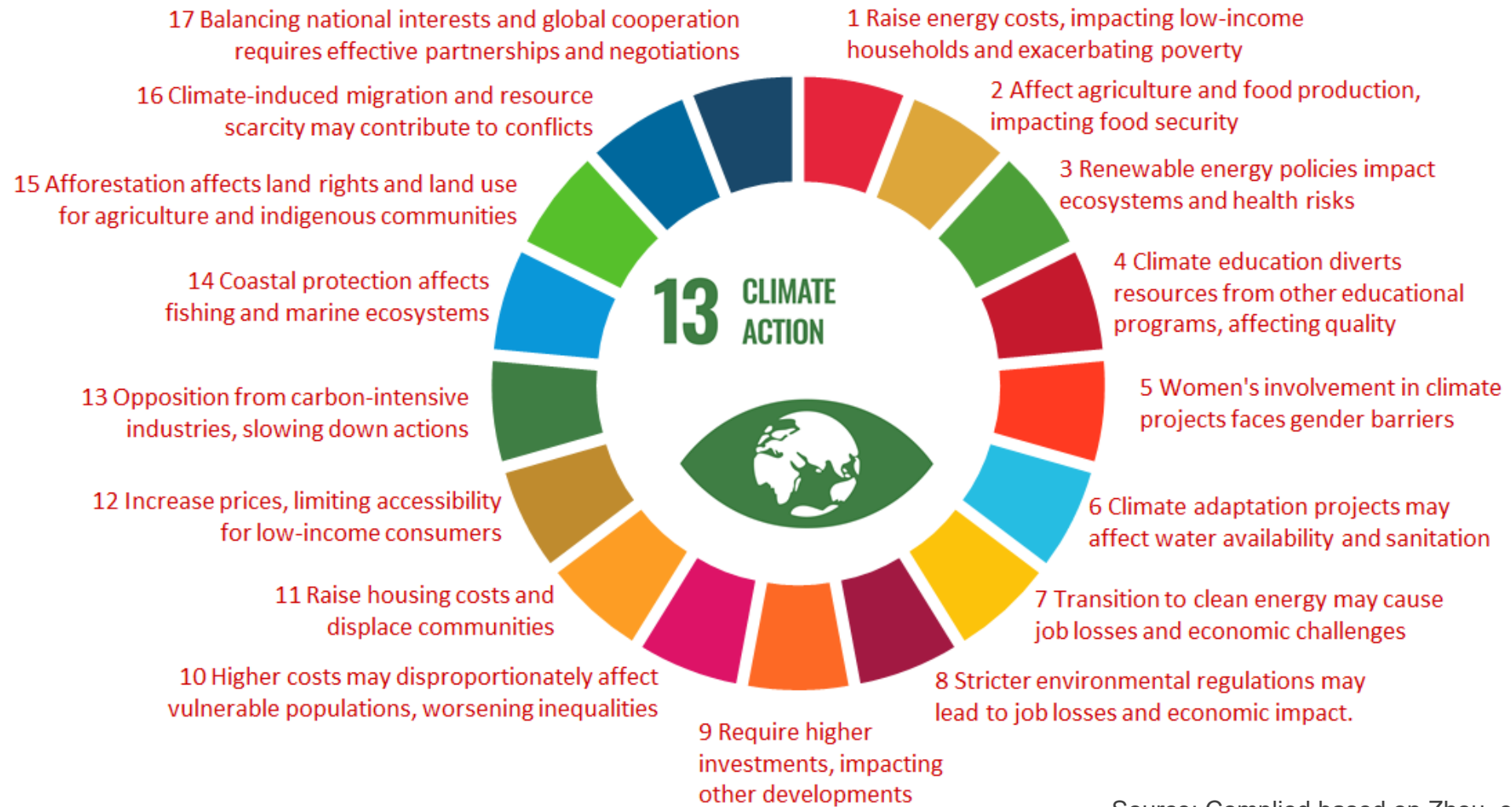


# Synergies between Climate Action and SDGs



Source: Compiled based on Zhou, et al., 2022  
(<https://www.climatechange.ai/papers/aaaifss2022/23>)

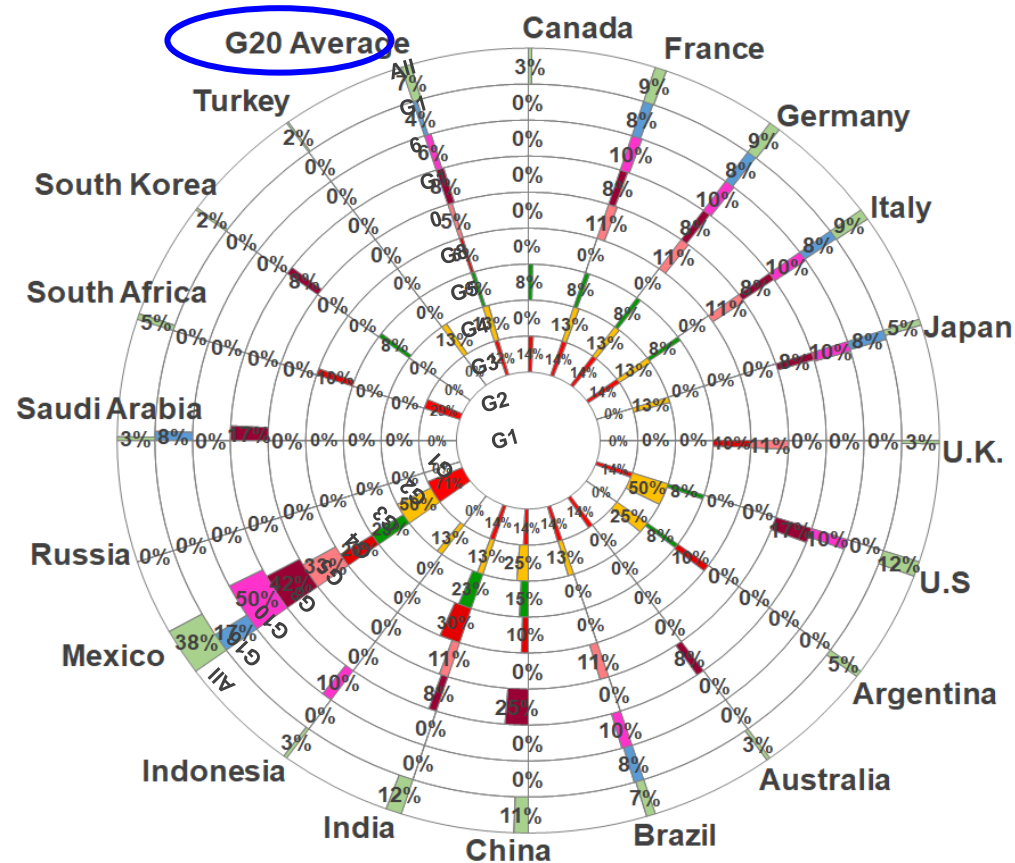
# Trade-offs between Climate Action and SDGs



Source: Compiled based on Zhou, et al., 2022  
 (<https://www.climatechange.ai/papers/aaaifss2022/23>)

# Policy Gaps in SDG Integration in NDCs

## Level of SDG Integration in G20's NDCs



Existing national climate policies (e.g. the NDCs in G20 countries) did not take SDGs, particularly the social dimension of the SDGs, into full consideration.


- Especially low for SDG4 (education), SDG5 (gender), SDG10 (inequalities) and SDG16 (peace and justice).

Source: Compiled by Zhou and Moinuddin, 2023.

# Policy Recommendations to the G7: Putting Societal Well-being at the Core of Climate Strategies

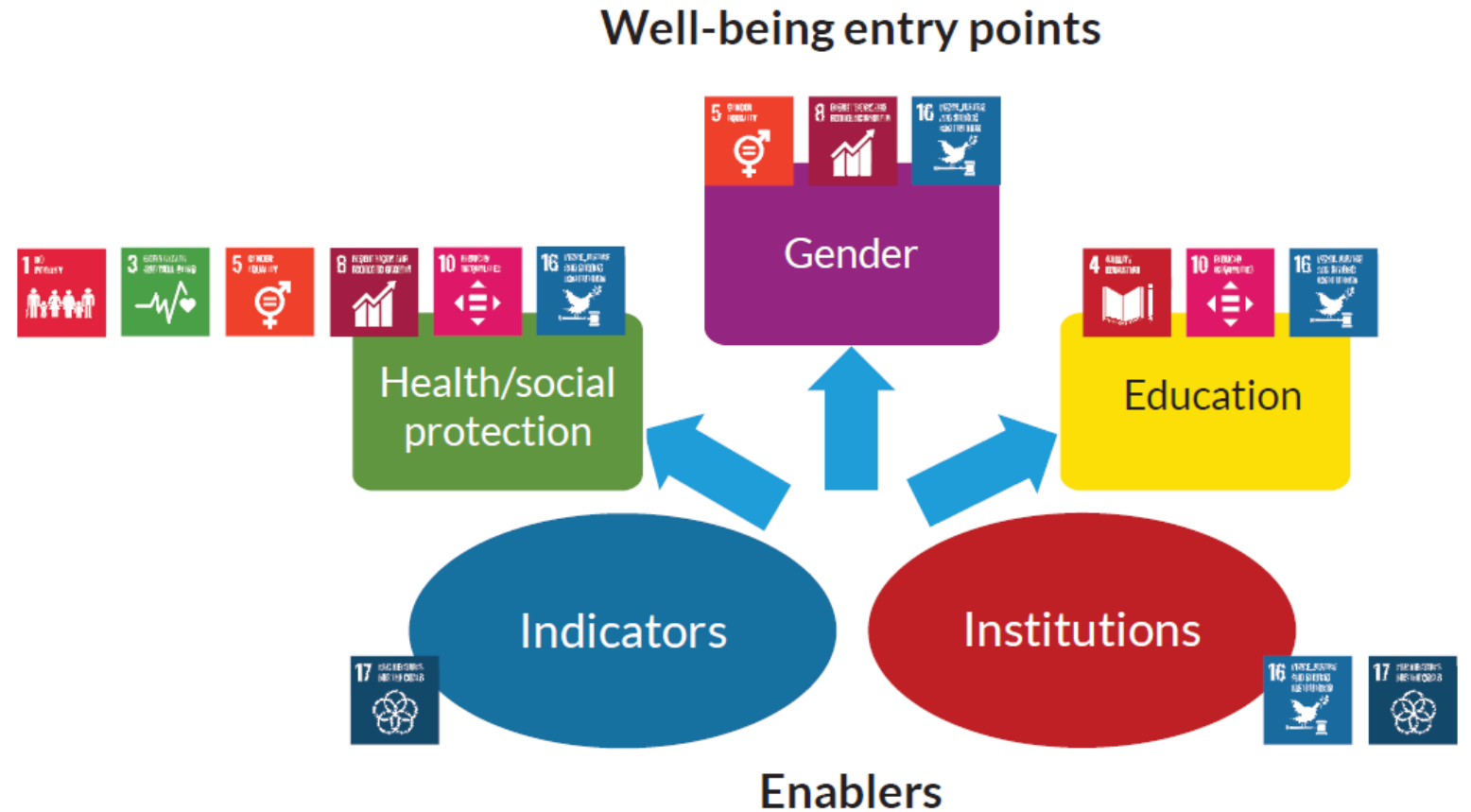
Think7 JAPAN 2023 | G7 2023 HIROSHIMA SUMMIT | **Policy Brief** April 2023

Task Force 2: Wellbeing, Environmental Sustainability, and Just Transition



**Putting Societal Well-Being at the Core of G7 Climate Strategies: Entry Points and Enabling Reforms**

Xin Zhou, Research Director, Integrated Sustainability Centre, Institute for Global Environmental Strategies (IGES), Japan  
 Eric Zusman, Research Director, Integrated Sustainability Centre, IGES, and Senior Researcher, National Institute for Environmental Studies, Japan  
 Mustafa Moinuddin, Research Manager and Deputy Director, Integrated Sustainability Centre, IGES, Japan  
 Jakob Dirksen, Research and Policy Officer, Oxford Poverty and Human Development Initiative, Department of International Development, University of Oxford, United Kingdom  
 Nabaghan Ojha, State Project Manager, United Nations Development Programme, India  
 Sumbal Javed, Global Health Security Specialist, National Institute of Health, Pakistan  
 Rolia Mounné, Programme Specialist, United Nations Educational, Scientific and Cultural Organization, France  
 Gabriela Rigoni, Professor of International Taxation, National University of La Plata, Argentina  
 Satoko Yano, Programme Specialist, United Nations Educational, Scientific and Cultural Organization, France  
 Katharina Lima de Miranda, Researcher, Kiel Institute for the World Economy, Germany  
 Matthew Hengezbaugh, Policy Researcher, IGES, Japan  
 Miki Fukuda, Policy Researcher, IGES, Japan  
 Simon Halberg Olsen, Research Manager and Senior Policy Researcher, IGES, Japan  
 José A. Stracquadani, Professor of Marketing, University of Buenos Aires, Argentina  
 Aamer Ikram, Chief Executive Officer, National Institute of Health, Pakistan



Source: Zhou, X., Eric Zusman, E., Moinuddin, M., et al., 2023. <https://www.think7.org/publication/putting-societal-well-being-at-the-core-of-g7-climate-strategies-entry-points-and-enabling-reforms/>.

# Policy Recommendations for Climate-SDG Integration

## Enhancing Synergies

- Take Integrated Approaches: Adopt policies and development plans that integrate climate action and SDGs by identifying areas where climate actions can support multiple SDGs.
- Generate Co-benefits: Promote climate actions that have positive impacts on multiple SDGs.
- Make Green Investments: Encourage investments in sustainable infrastructure, clean technologies, and climate-friendly projects that promote economic growth and job creation.
- Facilitate Cross-sectoral Collaboration: Foster collaboration among various sectors, governments, civil society, and private entities to jointly address climate and SDG challenges effectively and efficiently.

## Managing Trade-offs

- Ensure Policy Coherence: Align climate policies with development strategies and SDG targets to prevent conflicts and unintended consequences.
- Conduct Impact Assessments: Evaluate potential trade-offs with other SDGs before implementing climate actions. Minimize negative effects through informed decision-making.
- Prioritize Equity and Inclusion: Consider the needs of marginalized populations to prevent exacerbating inequalities (SDG 10) when planning climate actions.
- Allocate Sustainable Financing: Balance resources between climate actions and SDGs to effectively address climate change while meeting development priorities.

# Thank you!

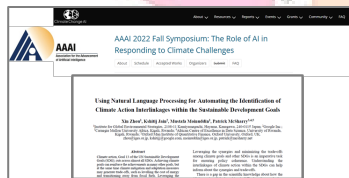
Contact: [zhou@iges.or.jp](mailto:zhou@iges.or.jp)



Zhou, X., Moinuddin, M., 2017. Sustainable Development Goals Interlinkages and Network Analysis: A practical tool for SDG integration and policy coherence. IGES Research Report. Hayama: IGES. [https://sdginterlinkages.iges.jp/files/IGES\\_Research%20Report\\_SDG%20Interlinkages\\_Publication.pdf](https://sdginterlinkages.iges.jp/files/IGES_Research%20Report_SDG%20Interlinkages_Publication.pdf)



Source: Zhou, X., Eric Zusman, E., Moinuddin, M., et al., 2023. Putting Societal Well-Being at the Core of G7 Climate Strategies: Entry Points and Enabling Reforms. 2023 Think 7 Task Force 2 Policy Brief. <https://www.think7.org/publication/putting-societal-well-being-at-the-core-of-g7-climate-strategies-entry-points-and-enabling-reforms/>.



Zhou, X., Jain, K., Moinuddin, M., & McSharry, P., 2022. Using Natural Language Processing for Automating the Identification of Climate Action Interlinkages within the Sustainable Development Goals. Proceedings of the AAI 2022 Fall Symposium on the Role of AI in Responding to Climate Challenges, 17–19 November 2022, Arlington, Virginia, USA. <https://www.climatechange.ai/papers/aaifss2022/23>.

