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01.05.2025

PERSONALIA

Fødselsdato 14.12.1990
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Nåværende stilling Global Efficiency Intelligence
Oppsigelsestid 1

SØKNAD

Dear Sir/Madam,

I am writing this letter in response to the opening for Researcher - global supply chain sustainability and biodiversity conservation at NTNU. My research focuses on the nexus of economic development, international trade, and global carbon emissions. I also study the impacts of carbon pricing policy and energy transitions on households and firms in the economy. I implement multiple quantitative analysis in my works. I use the Environmentally-Extended Multi-Regional Input-Output (EE MRIO) model to measure and interpret the impact of countries' participation in international trade on global carbon emissions. Additionally, I combine the EE MRIO model with a microsimulation model to analyze the distributional implications of carbon pricing policy -- which includes a carbon border tax adjustment mechanism -- on households across income levels. I also have a deep interest in understanding the implications of climate-related risk and the impact of energy transitions (e.g., stranded assets) on financial institutions.

In recent years, I have been combining my doctoral research with some professional experiences by working as a consultant for multiple institutions. I worked as a consultant for the World Bank in the Carbon Pricing Assessment Tools (CPAT) Project to develop a forward-looking Multi-Regional Input-Output (MRIO) model to analyze short- and medium-term sectoral output, labor demand, and cross-border competitiveness effects of carbon fiscal reform within and across countries. In this project, I am responsible in developing a balanced MRIO system based on the GTAP10 MRIO and GTAP Power data as the backbone of the CPAT model. I also served as a consultant for the World Bank's Digital Technologies and Climate Change flagship report, where my responsibilities included investigating the relationship between economic development, digital technology adoption, digital development, climate resilience, and GHG emissions. In addition, I also worked for the Global Efficiency Intelligence as a consultant for Global Carbon Loophole report project, in which I am responsible in carrying out an analysis on global carbon loophole and in developing the back-end of the Carbon Voyage Tool, a web-based application to accompany the report. In this project, I enrich the MRIO model with the UN Comtrade data to measure the size and direction of global carbon emissions embodied in trade on region, country, and product level.

On the technical side, I am proficient in using R for numerical analysis. Beside using the conventional text-producing software, I use R markdown for reporting, and LaTeX for document production and complement it with Mendeley and Zotero for reference management. In addition, I use Python to complement R for numerical analysis. I am also familiar with Git version control.

I believe that my background, experience, and scientific interest would be a valuable addition to your team. Enclosed you will find my CV. Should you need further information regarding my background and qualifications, kindly reach me at aldy.gustinara@gmail.com. I thank you for your kind considerations and look forward to hearing from you.

Sincerely,
Aldy Gustinara Darwili

UTDANNING

2019-08 - 2025-03 Delft University of Technology - Ph.D. Environmental Economics and Policy
Conducted doctoral research project to understand the implications of international trade on international emissions patterns by implementing the EE MRIO model and various EE MRIO datasets (e.g. EXIOBASE 3.8.2 and OECD ICIO). Analyzed in what way and to what extent the differences in production technology (e.g., sectoral emission intensity and intermediate input use) across countries affect the emissions embodied in trade. Formulated a method to measure the domestic and foreign emissions avoided by trade. Evaluated the distributional implications of carbon pricing policy and carbon border adjustment mechanism. Wrote the analysis in R. Presented the findings in internal and international conferences. Responsible in co-managing courses and co-supervising students' master thesis projects.

2015-09 - 2017-08 Delft University of Technology - M.Sc. Management of Technology VT / Studiepoeng: 120 Karakter: 8/10
MSc in Management of Technology, specializing in economics and finance. Took various basic and applied economics courses (micro and macroeconomics, intermediate economics, financial economics, and environmental economics). Wrote a master thesis entitled "Secular Stagnation of Total Factor Productivity Growth: Evidence from the Italian Economy" and received 8 out of 10.

2009-09 - 2013-08 Universitas Indonesia - B.Sc. Civil and Environmental Engineering VT / Studiepoeng: 200 Karakter: 8/10
Bachelor degree in civil and environmental engineering, with a major in structure and material engineering and a minor in energy and project management. Wrote a bachelor thesis entitled "Structural Analysis of Existing Jetty Redesign Project in Siak River, Indonesia.", and received 9 out of 10.

YRKESERFARING

2022-05 - 2023-06	World Bank - Consultant for Digital Technologies and Climate Change Flagship Report Performed statistical analysis to appraise the relationship between economic development, digital technology adoption, and GHG emissions. Analyzed the relationship between digital development (by using indicators such as access to internet, mobile phone service, digital finance), Nationally Determined Contributions (NDCs) and climate resilience. Delivered a technical report and visualization of the relevant findings by using R markdown.
2022-03 - 2023-06	Global Efficiency Intelligence - Consultant for Global Carbon Loophole Project Implemented the Environmentally-Extended MRIO (EE MRIO) model to measure the embodied emissions in international trade by using EXIOBASE 3.8.2 data. Performed country-specific deep-dive analysis and complemented the MRIO with product-level trade flows data from the UN COMTRADE for sector-specific deep dive analysis. Delivered a technical report that covers multiple countries, regions, country-groups and traded commodities. Prepared the back-end data needed to construct a web-based tool to complement the report.
2022-01 - 2022-07	World Bank - Consultant for Carbon Pricing Assessment Tools (CPAT) Project Developed a forward-looking MRIO global model to analyze short- and medium-term sectoral output, employment effects and cross-border competitiveness effects of carbon fiscal reforms. Developed a balanced MRIO system (intermediate input matrix and final demand matrix) based on the GTAP10 MRIO and GTAP Power data. Monitored the stability of the model. Investigated the policy-induced changes in production structure and resulting economy-wide tax revenue recycling. Investigated the changes in employment, changes in commodity price (Leontief price model) and the following changes in household and government final demand as well as changes in capital formation.
2017-10 - 2019-07	The Center for Strategic Development Studies (The CSDS) - Climate Economics Researcher Analyzed the risk of energy transition (e.g., the risk of stranded assets) on financial institutions and households in Indonesia. Analyzed how financial institutions' portfolios are related to negative environmental impacts, and how the portfolios are exposed to the risk of biodiversity loss. Advised and wrote policy brief for the members of the House of Representatives of Indonesia. Involved in engaging energy experts and relevant stakeholders, gathering them in various focus group discussions and policy seminars.
2013-10 - 2015-07	Saipem - Management Trainee Performed feasibility studies of two engineering projects: Front-End Engineering Design (FEED) of Abadi LNG Project, Masela Field, Indonesia (owned by INPEX, Japan) and Detailed Engineering Design (DED) of Tangguh offshore structure (owned by British Petroleum).

SPRÅK

Indonesisk	Muntlig: Morsmål Skriftlig: Morsmål
Engelsk	Muntlig: Flytende Skriftlig: Flytende
Nederlandsk	Muntlig: Gode kunnskaper Skriftlig: Gode kunnskaper

REFERANSER

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VEDLEGG

Cover Letter
Curriculum Vitae
MSc Diploma
MSc Academic Transcript
PhD Diploma
Certificate Graduate School Courses
Sample Work 1
List of Publications
Reference Givers
Reference Givers
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