Green Industrial Policy in a Globalized Economy [*†]

Sungwan Hong
University of Pittsburgh

January 2026

Abstract

This paper studies green industrial policy in an open economy when key energy-transition inputs are internationally tradable. I develop a dynamic multi-country general equilibrium trade model with input–output linkages in which renewable-energy equipment is traded, electricity generation is local, and equipment production features learning-by-doing spillovers. The model highlights a sharp difference between two instruments. Subsidies to renewable generation raise domestic equipment demand and imports, shifting production and learning gains toward foreign suppliers and worsening the subsidizing country's terms of trade. Subsidies to domestic equipment manufacturing expand home production, concentrate learning domestically, and lower the world price of clean equipment, accelerating decarbonization abroad. Quantitatively, applying the framework to the U.S. Inflation Reduction Act implies sizable global CO_2 reductions and small welfare gains, with the U.S. capturing a larger welfare gain than the world as a whole; incidence is shaped by equipment import penetration and the locality of learning.

JEL: F13, F18, O25, Q42, Q54, Q56

Keywords: Green Industrial Policy, Inflation Reduction Act, Energy Transition, renewable-energy equipment trade

[*]I am grateful to Fernando Parro, Jingting Fan, and Stephen Yeaple for their guidance. I appreciate suggestions and comments from Kai-Jie Wu, Seula Kim, Yan Bai, Xiang Ding, Sharat Ganapati, Costas Arkolakis, Haruka Takayama, David Hemous, Konstantin Kucheryavyy, Johannes Boehm, Eugenie Dugoua, David Atkin, George Alessandria, Allan Hsiao, and seminar and conference participants. I am especially grateful to Jevan Cherniwchan and Dongkyu Yang for valuable discussions. All errors are mine.

[†]Correspondence by email: sungwan.hong@pitt.edu