

PRICING CARBON

by

Dale W. Jorgenson

Samuel W. Morris University Professor, Harvard University

<http://scholar.harvard.edu/jorgenson/>

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清华大学
Tsinghua University

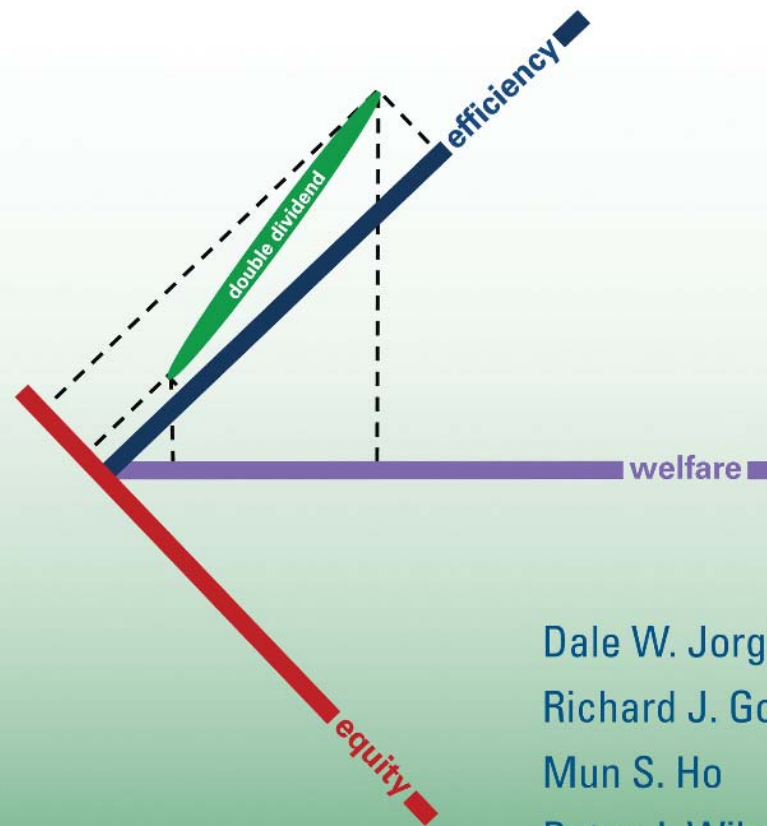
清华大学环境学院

School of Environment



DOUBLE DIVIDEND

Environmental Taxes and Fiscal Reform in the United States



Dale W. Jorgenson
Richard J. Goettle
Mun S. Ho
Peter J. Wilcoxon



AIR POLLUTION IN BEIJING, DECEMBER 2013



SMOG IN NEW DELHI, FEBRUARY 2013

ALTERNATIVE APPROACHES TO PRICING CARBON

An Emission Trading System (Cap and Trade)

Example: China's National Carbon Dioxide

Emission Trading System

A Carbon Tax

Example: Carbon Tax, British Columbia, Canada.

AN EMISSIONS TRADING SYSTEM

Emissions to Be Covered

Issuing Tradable Permits

Trading Emissions Permits

Enforcing the Emissions Cap

A CARBON TAX

Emissions to be Taxed

Setting the Carbon Tax Rate

Collecting the Tax

Recycling the Revenue

OPTIONS FOR REVENUE RECYCLING

Reducing Capital Tax Rates for Individuals and
Corporations

Reducing Labor Tax Rates for Individuals

Proportionally Reducing Capital and Labor Tax Rates

Lump Sum Redistributions to Individuals

DOUBLE DIVIDEND

Imposing a Carbon Tax Reduces the Use of Energy

Reducing Capital Tax Rates Increases Investment

Revenue Recycling Produces a Double Dividend:
Reduce Pollution and
Improve Economic Performance

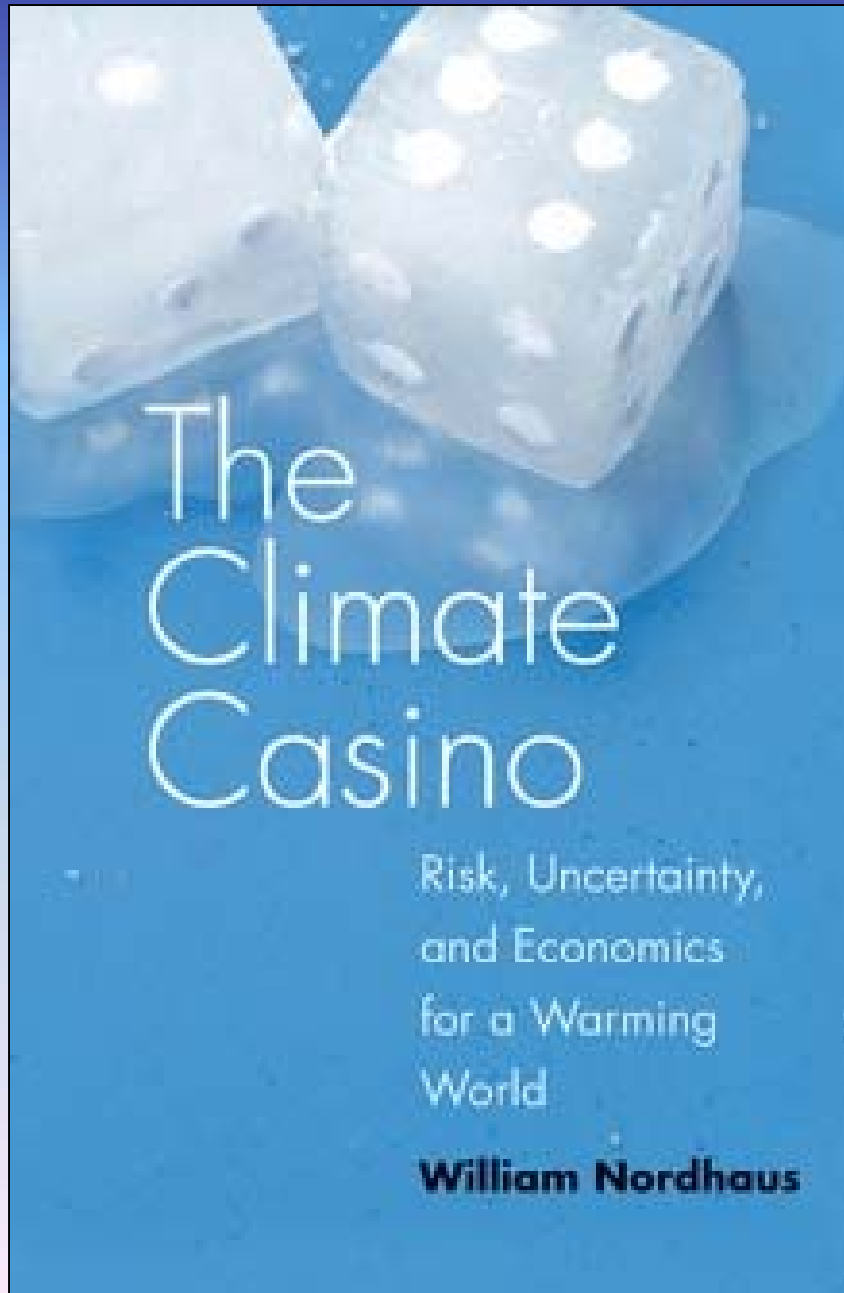
INTERNATIONAL AGREEMENTS

Identical Price of Carbon for All Countries

Setting the Tax Rate: The Climate Casino

Enforcing International Agreements

Recycling the Revenues



PARIS AGREEMENT

21st Session of the Conference of the Parties
to the United Nations Framework
Convention on Climate Change

Paris, France, December 12, 2015:
195 Signatories

Entry into Force, November 4, 2016:
153 Parties

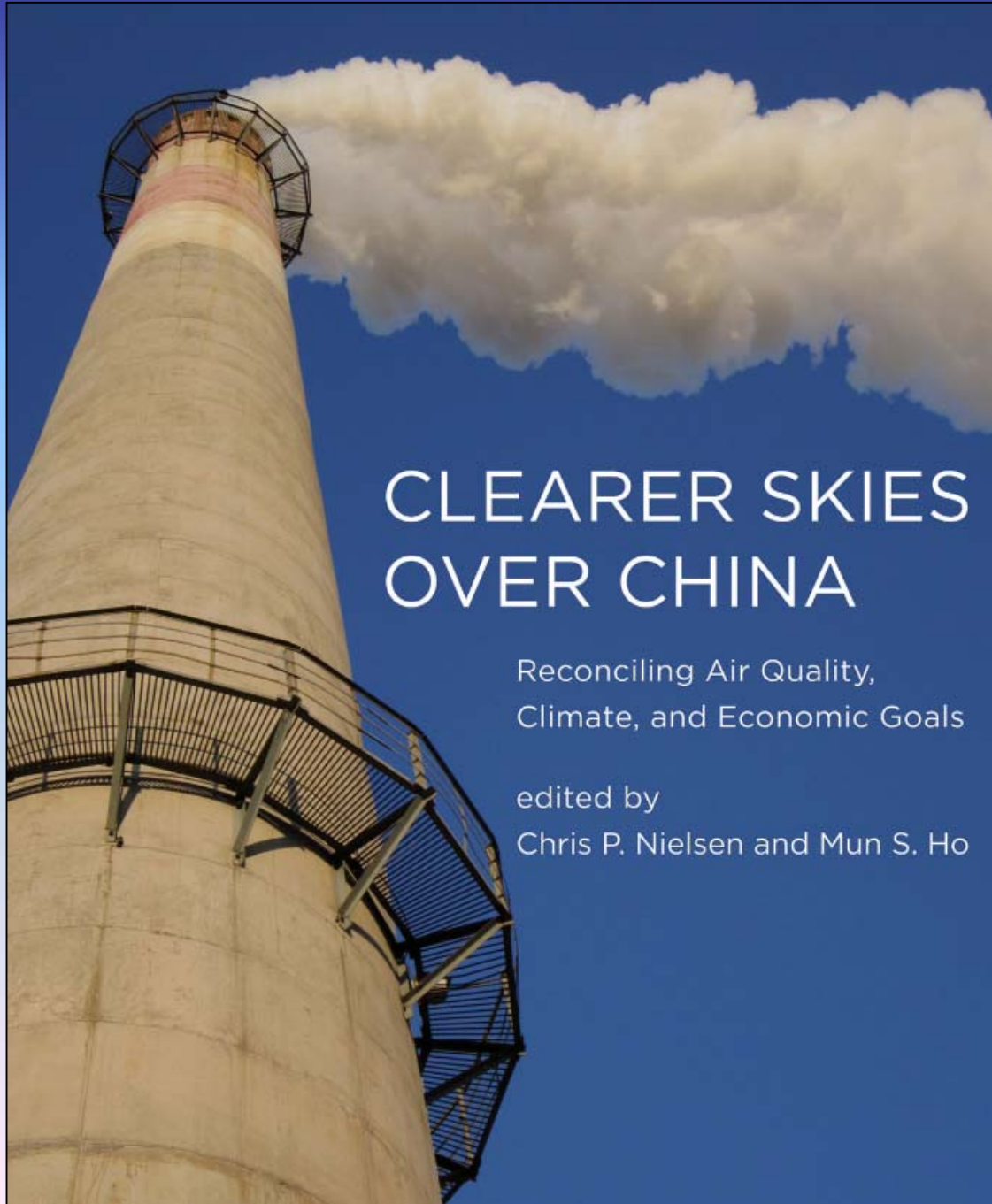
CHINA'S ACCESSION TO THE PARIS AGREEMENT

Communicating the Nationally Determined
Contribution (NDC)

Ratio of Carbon Dioxide Emissions to the GDP

The Goal is a Reduction of 60-65 percent by
2030, Relative to 2005

13th Five-Year Plan of 2016: 20 Percent
Reduction from 2015 to 2020



CLEARER SKIES OVER CHINA

Reconciling Air Quality,
Climate, and Economic Goals

edited by
Chris P. Nielsen and Mun S. Ho

CHINA'S EMISSIONS TRADING SYSTEM IN 2017

Large Emitters in 7 Sectors:

Electricity, Petroleum Processing, Primary Metals, Cement, Chemicals, Paper, and Aviation

Enterprises Emitting More Than 26,000 Tons of Carbon Dioxide Annually

Covers Forty Percent of Carbon Dioxide Emissions

EXPANDING COVERAGE

Emission Trading System Covers
10,000 Large Enterprises

Upstream Carbon Taxes Could Cover the Rest

A Hybrid Emission Trading System
and Carbon Tax

Extension to Other Greenhouse Gases

SUMMARY

Emission Trading, Carbon Taxation,
Hybrid System

Recycling the Revenue

International Agreements: the UN FCCC

Coverage of Greenhouse Gas Emissions