

Complementary Policies

Technology, Competitiveness & Sector-Specific Approaches

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Resources for the Future

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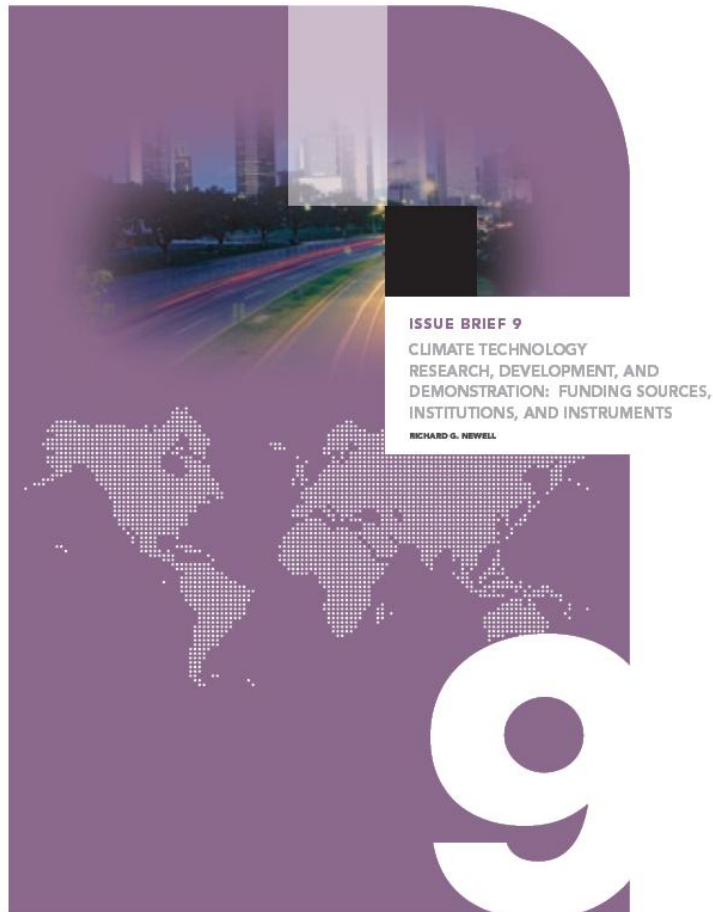
Complementary Policies

- Policies in addition to economy-wide carbon pricing
- Designed to address “market failures”
- Designed to stimulate actions where carbon pricing alone may provide weak incentives
- Designed to deal with distributional issues

Specific policy areas

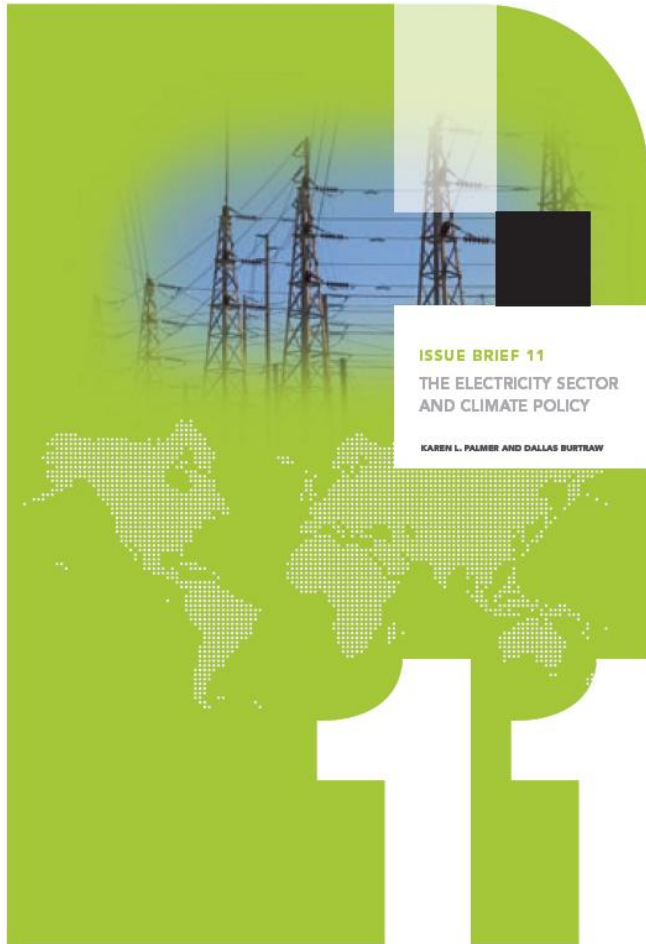
- Policies to address market failures
 - Broaden and deepen R&D
- Policies where pricing incentives are weak
 - Transport sector
- Policies to address distribution
 - Issues of US sectoral competitiveness

Climate Technology RD&D



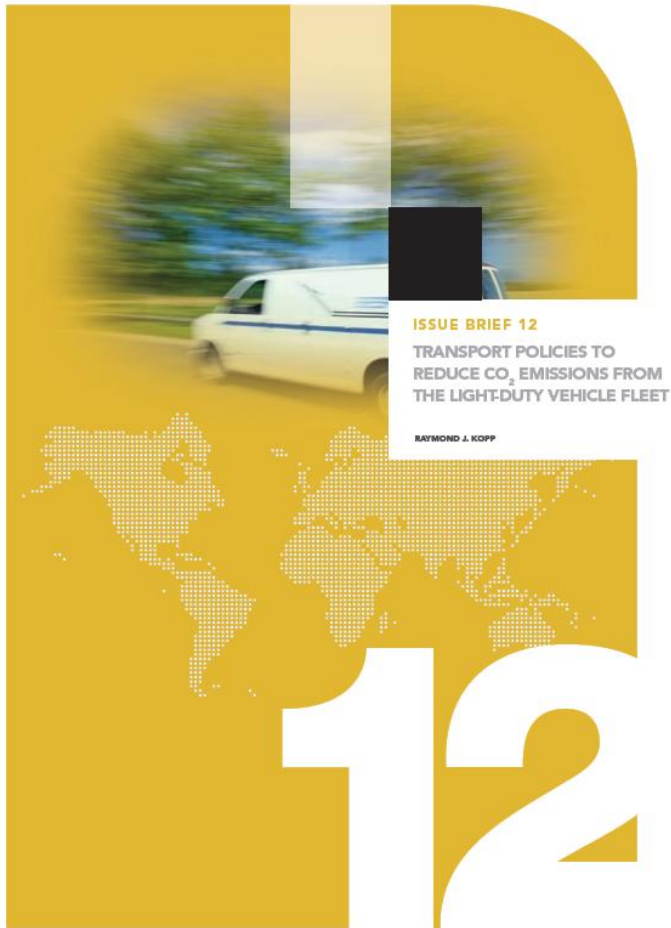
- **Economy-wide CO₂ price would induce innovation; however, additional RD&D policies are likely required**
 - R&D market failure
 - Demands for university trained researchers and engineers (human capital investments)
- **Less agreement regarding public policy support for demonstration and deployment**
- **Studies show federal energy R&D investments have yielded substantial direct economic benefits**
- **What's needed?**
 - effective and efficient management,
 - stable funding,
 - insulation from politics and public accountability.

Sectoral Policies: Electricity



- Is carbon pricing not enough?
 - Perceived need to incentivize new low carbon generation
- Technology standard
 - CCS
- Performance standard
 - RPS

Sectoral Policies: Transport



- Is carbon pricing not enough?
 - Three regulatory margins
 - Fuel economy
 - VMT
 - Carbon content of fuel
- Options
 - CAFE
 - CO₂ cap & trade
 - Fuel requirements
 - Feebates

Competitiveness Impacts

- Loss of competitiveness tied to energy intensity of production or products
 - and ability to pass costs on to consumers
- Energy intensity of production in most sectors is less than 2% of total costs
 - In some sectors greater than 3%
- If greater than 3%, costs rise 1-2.5 % for every \$10 of CO₂ cost
- EU studies suggest greater impacts for some very energy intense sectors
- Competitiveness studies rarely take secondary impacts into account



Addressing Competitiveness



- Efficient GHG regulations
- Weaker overall program targets
- Partial or full sectoral exemptions
- Standards instead of market-based policies
- Free allowance allocation
- Trade-related policies