## Key Findings on Legal Pathways

- Legal tools are available to decarbonize U.S.
- More than 1,500 specific recommendations for federal, state, local and private action
- Wide variety of types of tools; some are regulatory, but most are not
- These tools would create economic, social, environmental, and security benefits in addition to reducing GHG emissions

#### Twelve types of legal tools

- Additional regulation
- Reduction or removal of legal barriers
- Market-leveraging approaches
- Removal of incentives for fossil fuel use
- Tradable permits or allowances
- Information/persuasion

- Facilities and operations
- Infrastructure development
- Research and development
- Insurance
- Property rights
- Social equity

Energy efficiency, conservation, fuel switching

- Light duty vehicles
- Heavy duty vehicles and freight
- Transportation demand and mode shifting
- Aviation
- Shipping
- Lighting, appliances and other equipment
- Old buildings
- New buildings
- Industrial sector

Electricity decarbonization

- Utility-scale renewables
- Distributed renewables
- Transmission, distribution and storage
- Nuclear
- Hydropower
- Phasing out fossil fuels in electricity sector

**Fuel decarbonization** 

- Bioenergy feedstock
- Production and delivery of low-carbon gaseous fuels
- Production and delivery of bioenergy fuels

Carbon capture and negative emissions

- Carbon capture, sequestration, utilization
- Direct air capture
- Agriculture
- Forestry

Non-CO2 climate pollutants

- Black carbon
- Methane
- Fluorinated gases
- Nitrous oxide

Cross-cutting approaches to reducing emissions

- Carbon pricing
- Behavior
- Technological innovation
- Financing large-scale projects
- Financing at the grid edge
- Materials consumption and solid waste
- International trade

# Carbon pricing alone will not solve everything

- Local opposition (e.g. Cape Wind)
- Hard-to-measure emissions (e.g. natural gas leakage)
- Principal-agent problem (e.g. builders don't pay occupants' energy bills)
- Sectors with low price elasticity (e.g. some HFC uses)
- Sectors with long lead times (e.g. passenger autos)
- Public infrastructure construction
- Non-carbon externalities (e.g. mining waste)

Moving Forward With the Legal Pathways By Mobilizing Pro Bono Lawyers Through Coordinating Law Firms

Drafting federal and state statutes and regulations, model local laws, etc.



#### Renewable Energy Legal Defense Initiative

Arnold&Porter

Summary and key recommendations volume (160 pages) – free download:

https://www.eli.org/legal-pathways-deepdecarbonization-united-states-summary-and-keyrecommendations

Full volume (1,200 pages) – available late March 2019 (\$64.95):

https://www.eli.org/eli-press-books/legalpathways-deep-decarbonization-united-states

The Dozen Types of Legal Tools in the Deep Decarbonization Toolbox:

https://papers.ssrn.com/sol3/papers.cfm?abstract \_id=3247105

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