Revenue Recycling Choices and their Effect on Decarbonization

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Outline

- Who is ICF?
- Decarbonization efforts
  - Current status
- How to get there
- Various options for revenue recycling
  - Investment options
  - Direct assistance
  - Other options
- Concluding thoughts
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80 Nationalities

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- Energy
- Consumer
- Environment
- Transportation
- Education & Social Programs
- Retail
- Hospitality

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- 50+ top U.S. utility companies
- Most U.S. Federal agencies
- International, state and local governments
- 9 of the top 10 U.S. hub airports
Examples of Different Decarbonization Actions

- 21 States (+DC) have GHG emissions targets
- 8 states (+DC) have 100% RE targets

100% Renewable or Clean Energy Standards/Goals

Need for a Carbon Price

- Why is pricing carbon important?
  - Effective policy lever to achieve decarbonization
  - “Internalize the externality”

- Provides the incentives needed to affect change
  - Porter Hypothesis

- Generates revenue that can be directed effectively
  - Targeted revenue recycling can effectively mitigate impacts
Various Revenue Recycling Options

- Invest in reducing GHGs
  - Complementary policies in cap-and-trade programs
- Help low income residents facing higher energy bills
  - Direct (energy bill) assistance
- Help dislocated workers
  - Provide workers retraining/rehiring incentives
- Reduce other distortionary taxes
  - Income tax
- Reduce budget deficits
  - Money goes to the General Fund
- These options, except reducing deficits, should help the decarbonization process

Charts 2 and 3: 2017 RGGI Investments by Category and Recipient

Source – RGGI, Inc
Investment Options

- **Invest in Energy Efficiency**
  - Low hanging fruit
  - Easy to implement

- **Incentivize additional Clean and Renewable Energy**
  - Distributed solar
  - Small scale wind
  - Anaerobic biogas digesters
  - Energy storage options

- **Invest in Clean Transportation**
  - Incentivize EV purchases and/or charging infrastructure
  - Some states focus on improving public transport options

- **Other GHG abatement measures**

- Creates jobs and helps with meeting decarbonization goals
Options for Direct Financial Assistance

- **Direct Energy Bill Assistance**
  - Provides direct assistance to compensate for higher energy bills
  - Could target low income residents or all residents
  - Tends to have more progressive effects on residents

- **Reducing Other Taxes**
  - Could help reduce distortionary income tax
  - Tends to be politically more palatable
  - But is usually less progressive
  - Tax interaction effect – could help though the causality/effect is uncertain

- Overall, these choices make decarbonization less expensive for affected groups
- But, likely to have lower employment impacts than investment options
## Recycling Choices Under RGGI

- Most states invested in EE
- But enough variability depending on state’s goals

## Proceeds Investments Allocation

Table represents current shares for state-level investment by categories used in the REMI modeling.

<table>
<thead>
<tr>
<th>State</th>
<th>Electric EE</th>
<th>Fossil Fuel EE</th>
<th>Clean &amp; Renewable Energy</th>
<th>GHG Abatement &amp; Climate Change</th>
<th>Direct Bill Assistance</th>
<th>Admin/Other</th>
<th>Total</th>
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<tbody>
<tr>
<td>Connecticut</td>
<td>4%</td>
<td>85%</td>
<td>23%</td>
<td>6%</td>
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<td>1%</td>
<td>100%</td>
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<td>--</td>
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<td>--</td>
<td>3%</td>
<td>100%</td>
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<td>3%*</td>
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<td>--</td>
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<td>20%</td>
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<td>13%</td>
<td>--</td>
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<tr>
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<td>--</td>
<td>--</td>
<td>--</td>
<td>2%</td>
<td>100%</td>
</tr>
</tbody>
</table>

*Reflects percentages from the MRPS policy case.

Options to Help Dislocated Workers

- Could be useful in states where the fossil fuel industry has a large presence
- Help workers transition from fossil jobs to clean energy jobs
- Usually a two-pronged strategy
  - Retrain/Upskill dislocated workers
  - Provide hiring incentives to companies
- Targeted assistance where needed
- Does not seem to be popular with policymakers
Other Revenue Recycling Options

- Put revenues into the General Fund
  - Funds can be used to meet budgetary demands
  - Could use the money to pay for education, housing, anything else
  - Reduce budget deficits, if warranted

- Free allocation to sectors
  - Usually done under a cap-and-trade type program
  - Provide relief to sectors facing high costs – fossil fuel production
  - Least efficient way to use the funds but could be needed in certain situations

- Options are least likely to create jobs or provide additional emission reductions
Conclusion

- Relative efficacy of a recycling scenario depends on the evaluation criteria
  - If goal is to have the largest job impacts, investment scenarios perform better
  - Distributing funds to consumers (Dividends) or fuels related businesses (Free allocation) leads to higher incomes for those groups
  - Dividends tend to help the low-income groups and Free allocation tends to help upper income groups
- Choosing the appropriate reinvestment avenue should thus depend on the ultimate goal for policymakers
Thank You!

Questions?

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