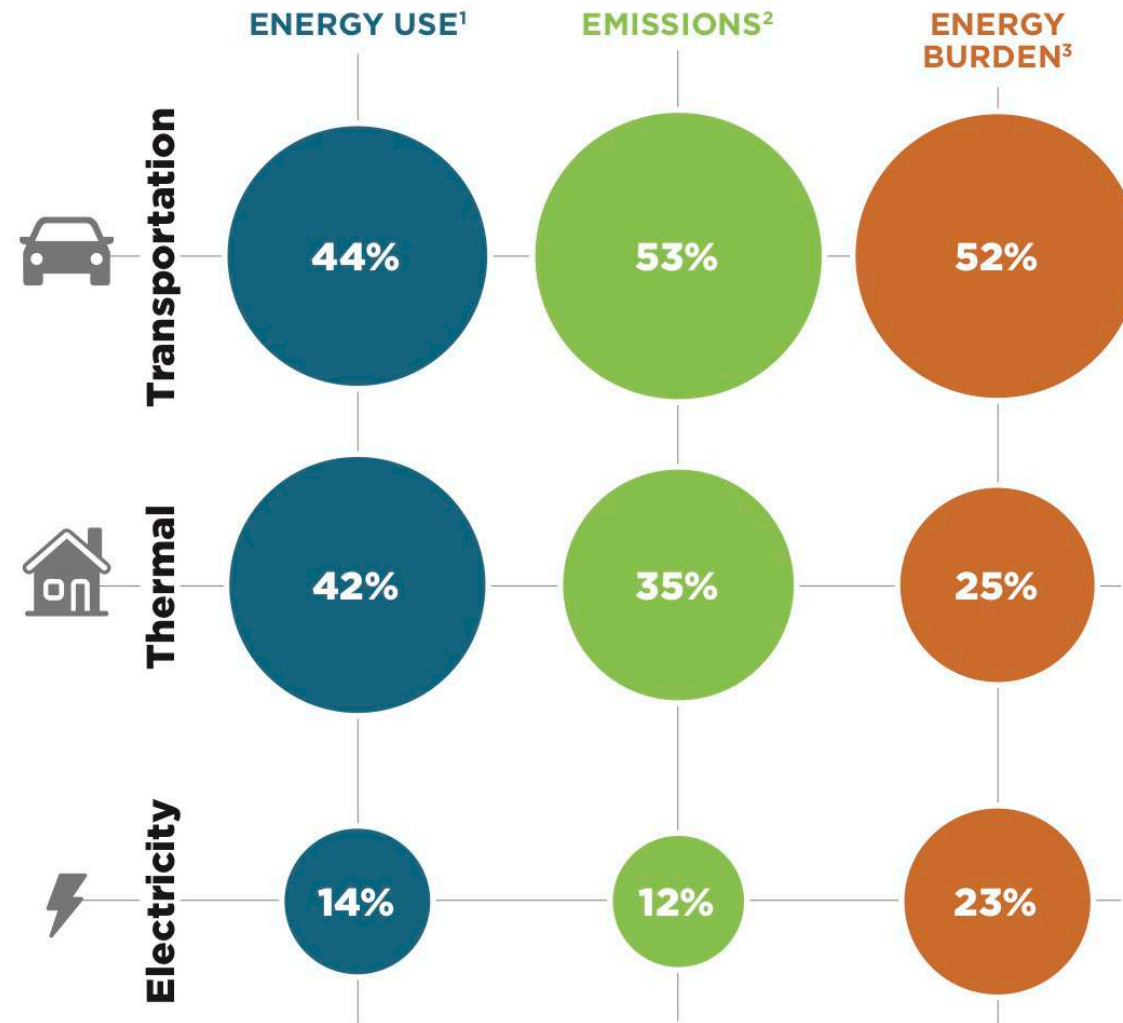


Discussion of the Transportation and Climate Initiative: Cap-and-Invest for the Transportation Sector

Senator Tim Ashe
Dave Farnsworth, RAP
Montpelier

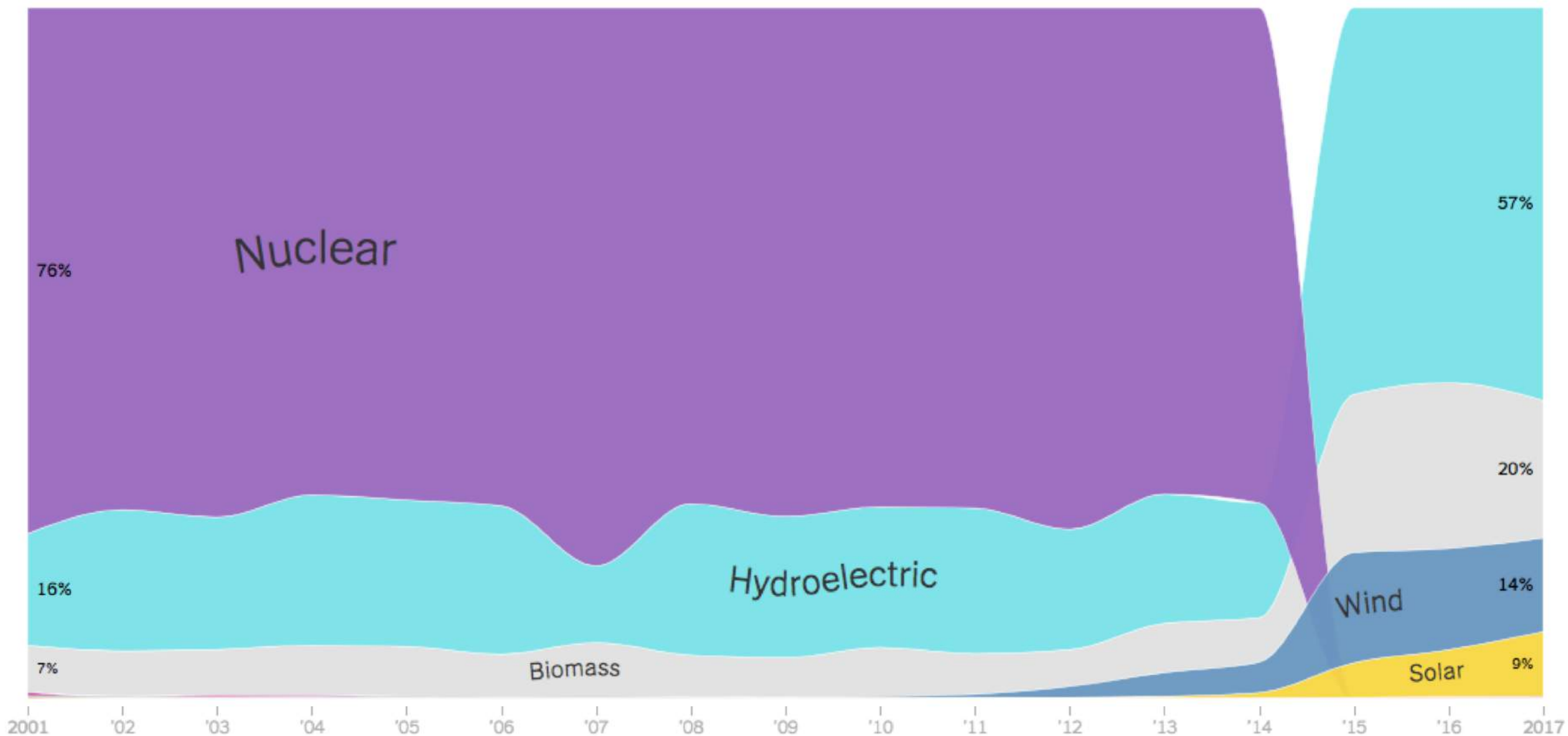
VERMONT TOTAL ENERGY & EMISSIONS | 5



Source: EAN 2018 Report

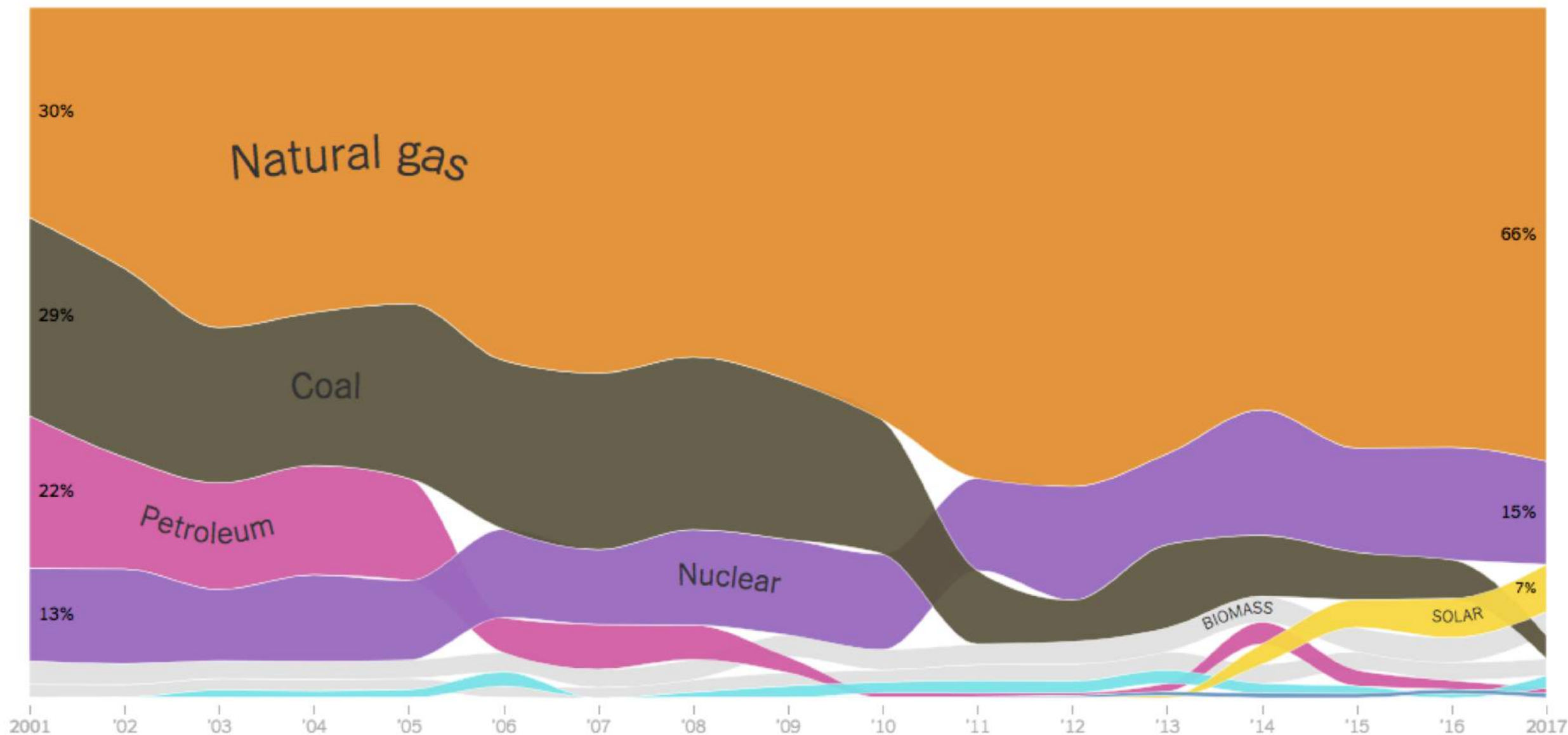
How **Vermont** generated electricity from 2001 to 2017

Percentage of power produced from each energy source

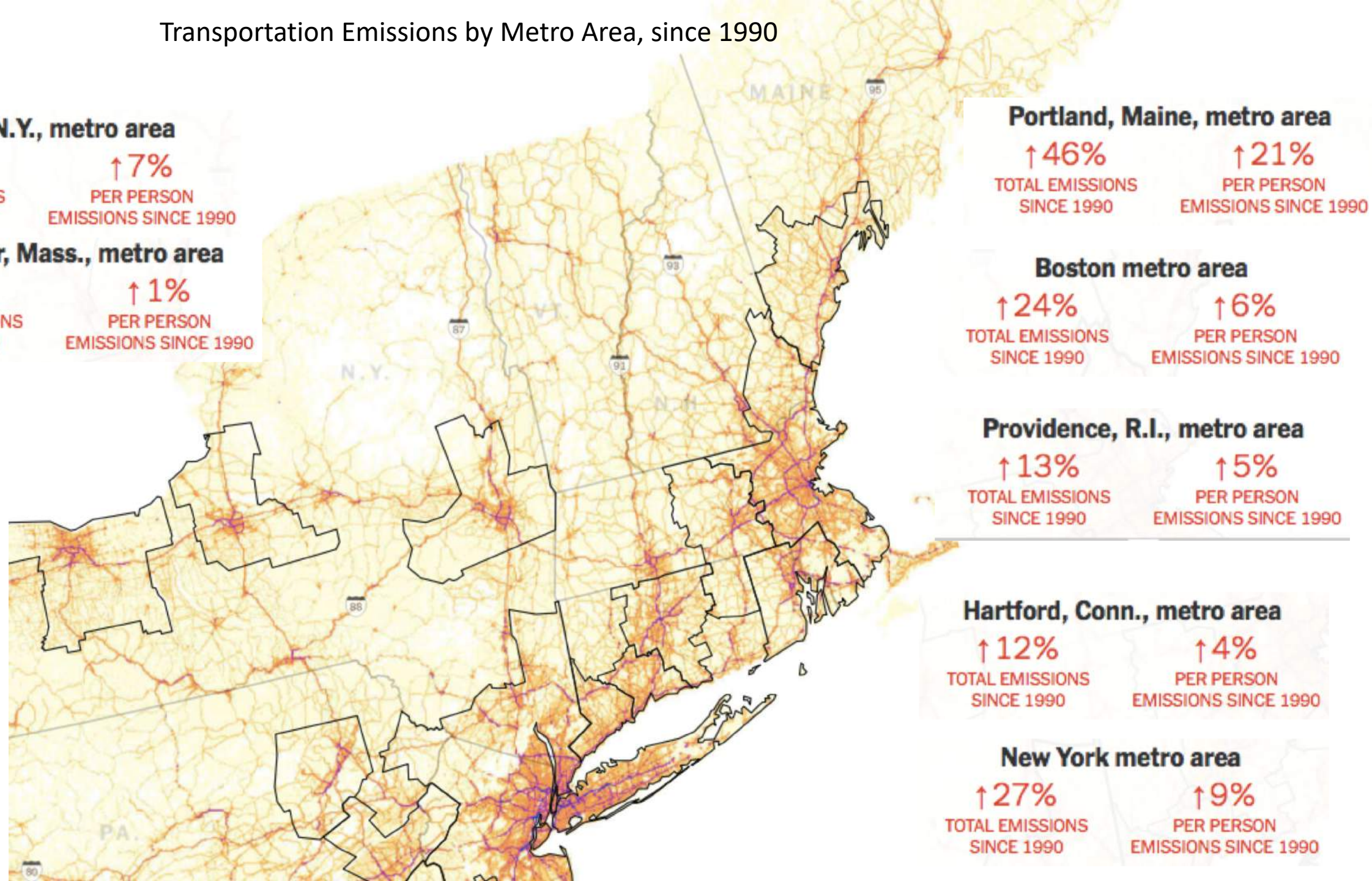


How **Massachusetts** generated electricity from 2001 to 2017

Percentage of power produced from each energy source



Transportation Emissions by Metro Area, since 1990



The Pace of Electrification of Vermonters' Vehicles Will be Affected by the Current Vehicle Mix



Tim Ashe
@TimAsheVT



Been poring over data of all registered cars + trucks in VT.
Here's the top 10 by model:

10. Toyota Corrola
9. Subaru Impreza
8. Subaru Outback
7. Honda CRV
6. Toyota RAV-4
5. Subaru Forester
4. GMC Sierra
3. Toyota Tacoma
2. Chevy Silverado
1. Ford F Series



Tim Ashe
@TimAsheVT



A few more facts re: the cars + trucks on Vermont's roads.
433,481 total cars registered. 153,318 trucks.

2019 Legislative Action on Transportation Emissions

- (1) Park and Rides. Funded construction and design of 554 new park and ride spaces, a 34% increase statewide.
- (2) Bike and Pedestrian Facilities. We appropriated \$14,737,044 to fund 34 bike and pedestrian construction projects for 2020, and 20 bike and pedestrian design or right-of-way projects for construction in 2021.
- (3) Transportation Alternatives. For this program in which the State funds local projects, we appropriated \$4,085,772 to fund 21 transportation alternatives construction projects and 14 design or right-of-way projects.
- (4) Public Transit. We appropriated \$36,824,399 to fund public transit throughout the State, which is a 17.2 percent increase over fiscal year 2019 levels. This authorization includes \$1,884,000 for two large all-electric transit buses for the Burlington area, \$480,000 for two all-electric small shuttle buses for the Montpelier area.
- (5) Rail. We appropriated \$35,983,865 for passenger and freight rail uses throughout the State, which is an 11 percent increase over fiscal year 2019 levels. This authorization includes \$5,200,000 for infrastructure upgrades to bring passenger rail service to Burlington.
- (6) Multi-Modal Facilities. We appropriated \$1,250,000 to complete the \$7,750,000.00 multi-modal transit center, bike path, and pedestrian facility in Montpelier.

(7) Transformation of the State Vehicle Fleet. The State Vehicle Fleet, which is under the management of the Department of Buildings and General Services, contains 734 vehicles. Presently, a mere 54 of those vehicles are hybrid or plug-in electric vehicles. We passed a new requirement that not less than 50 percent of vehicles purchased or leased by the Department of Buildings and General Services on or after July 1, 2019 be hybrid or plug-in electric vehicles, and not less than 75 percent beginning July 1, 2021.

(8) Plug-in electric vehicle incentive program. This program will offer financial incentives to income-eligible Vermont households purchasing or leasing new plug-in electric vehicles.

(9) High fuel efficiency vehicle incentive. This program will offer financial incentives to income-eligible Vermont households to replace older, fuel inefficient vehicles with used high fuel efficiency vehicles, including hybrid vehicles.

(10) Electrification of the State's motor vehicle fleet. We appropriated \$512,000 to electrify the State's motor vehicle pool. The expenditures support the purchase of 12 fully electric vehicles and charging stations at State facilities.

(11) To advance (7) above, we authorized spending \$1M this year on Electric Vehicle charging stations with a goal of having a fast charging station within 30 miles of every VT home by the end of 2020.

Understanding TCI and Cap-and-Invest

- TCI — An Introduction and Status Report
- What is “Cap-and-Invest” and Why is RGGI an Example Worth Understanding?
- Q&A

TCI Schedule

- December 18, 2018 – TCI Statement
- October 1, 2019 – Release of framework for a draft regional policy proposal
- October/November 2019 – Public input on framework
- December 2019 – Release of a regional policy proposal –
 - a draft Memorandum of Understanding (MOU),
 - accompanied by modeling results that estimate the energy and emissions implications of different cap levels and investment scenarios, as well as
 - potential costs and benefits of different program design options.

DRAFT Policy

Based on input so far, the TCI Jurisdictions have started developing a high-level policy framework which includes

- Equity
 - There are communities (rural and elderly) within the TCI region that live with historic inequities with respect to accessibility, mobility, affordability, public health risks, and a disproportionate vulnerability to a changing climate.
- Affected Fuels and Emissions
 - Gasoline and on-road diesel. Biofuels?
- Regulated Entities
 - State fuel suppliers (the large upstream suppliers) would be required to hold emissions allowances to cover their reported emissions

DRAFT Policy

- Emission Reporting Requirements
 - Standard emissions factors developed by states and USEPA
- Monitoring and Verification
 - TCI to develop electronic emissions reporting system, 3rd party verification
- Flexibility and Cost Containment
 - Multi-year compliance period, allowance banking, potential future linking with other carbon programs
- Auctions and Allocation
 - Auction will be primary means of allocating allowances, potential set-aside of allowances for specific policy goals

DRAFT Policy

- Regional Cap and Allowance Budgets for each Jurisdiction
 - Initial cap (base line will be a combination of recent three years)
 - Will decline annually at a rate TBD
 - To begin as early as 2022 and reach target emissions level by 2032
- Market Monitoring and Auction Admin.
 - Establish system to collect and manage emissions data
- Investment of Proceeds and Complementary Policies
 - Each TCI jurisdiction has different needs, so each will decide how to invest to reach carbon reduction and other policy goals
 - Comp. Policies will depend on choices of individual jurisdictions and could, for example, a green bank, or infrastructure and land-use planning improvements

TCI Schedule

- January/February 2020 – Public input on Draft MOU
- Spring 2020 – Jurisdictions release a final MOU.
 - Each jurisdiction decides whether to sign the MOU and participate in the regional program.
- Spring – Fall 2020 – Participating jurisdictions
 - develop a “model rule” and
 - take any legislative steps that could be needed to implement the regional program.
- 2021 – Jurisdictions conduct rulemaking process to adopt regulations.
- As early as 2022 – Program implementation begins.

Understanding TCI and Cap-and-Invest

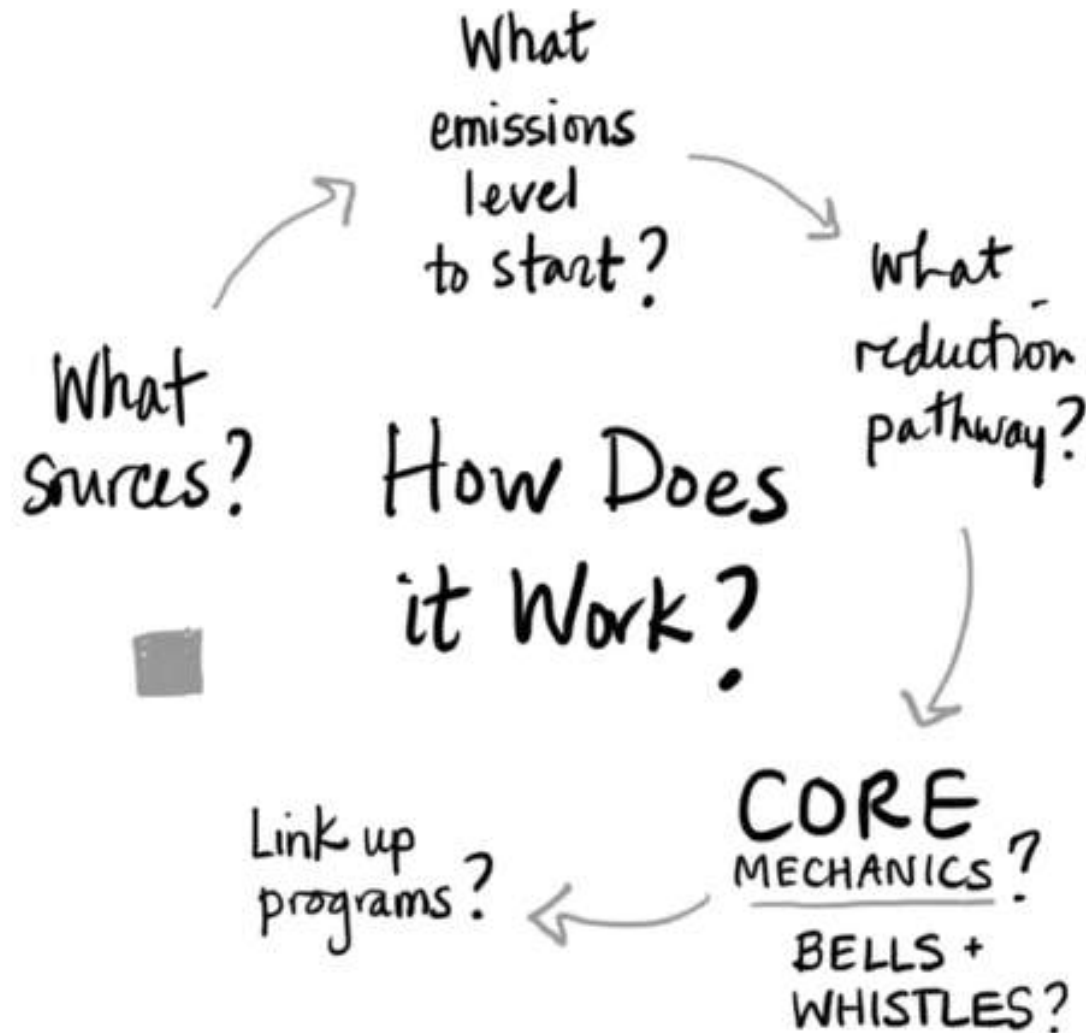
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The RGGI Example

- RGGI is an operational cap-and-invest program—PA, NJ and VA to join
- Most of the RGGI states are in TCI

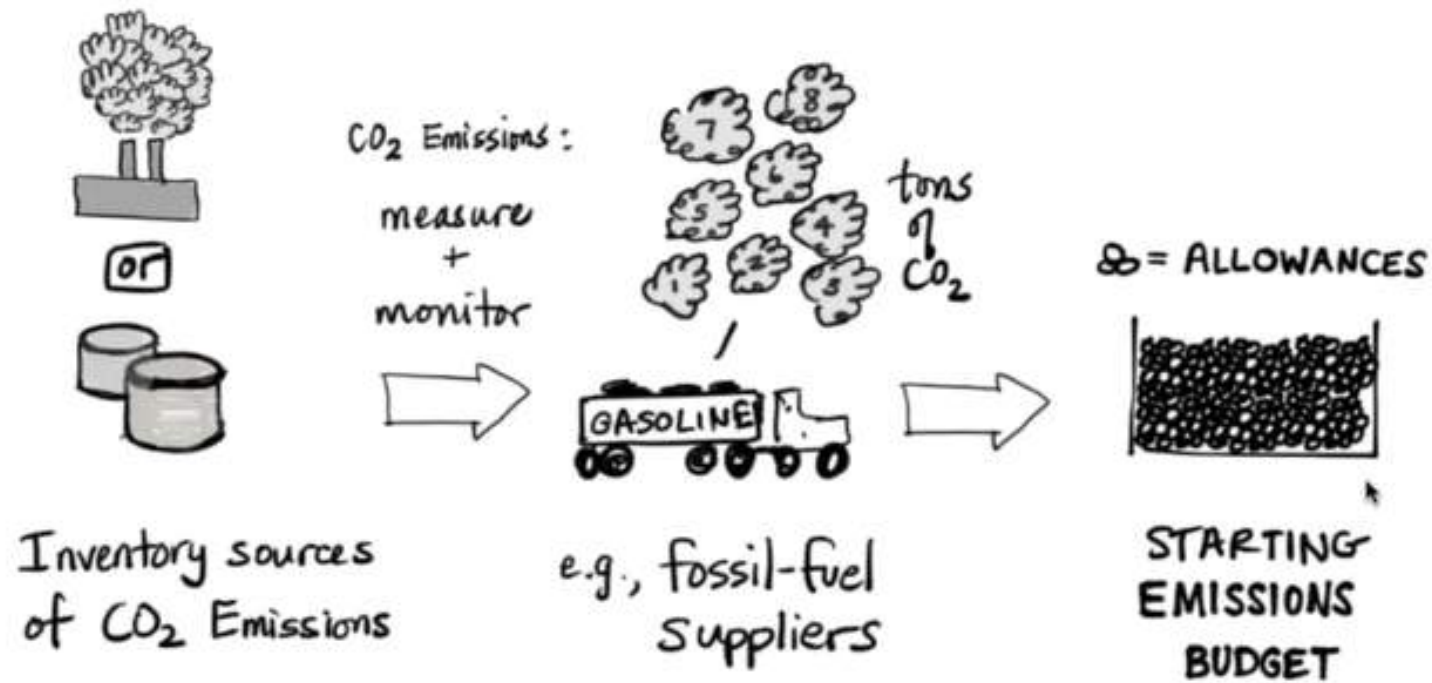


How Does Cap-and-Invest Work?



First Steps in Developing the Program

What is the starting point for the cap?



See C&I Presentation by
Franz Litz on Vimeo

<https://vimeo.com/331091117/defadf2a7f>

Which sources? What are the current emissions? Where to start?

The Cap (tons) is Reflected in the Budget (allowances)



Allowances can be given away or sold

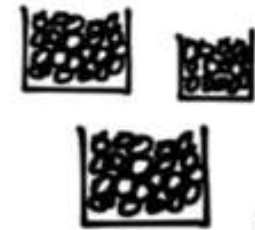
ALLOWANCES ARE DISTRIBUTED

AUCTION

DIRECT
ALLOCATION
TO
AFFECTED UNITS
OR
OTHER ENTITIES



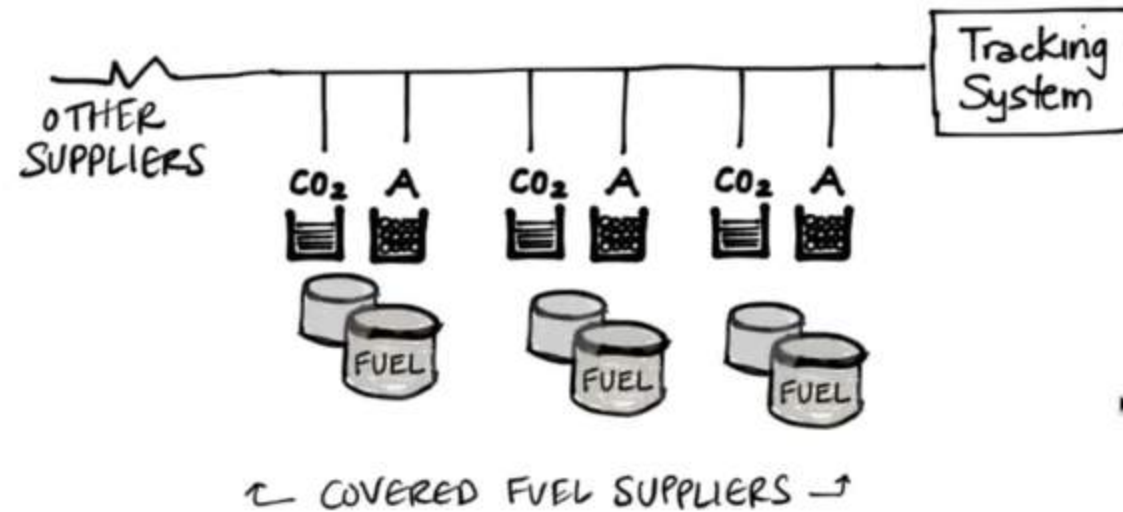
SET ASIDES



ALLOWANCE DISTRIBUTION MATTERS

How Do Fuel Dealers Comply with the Program?

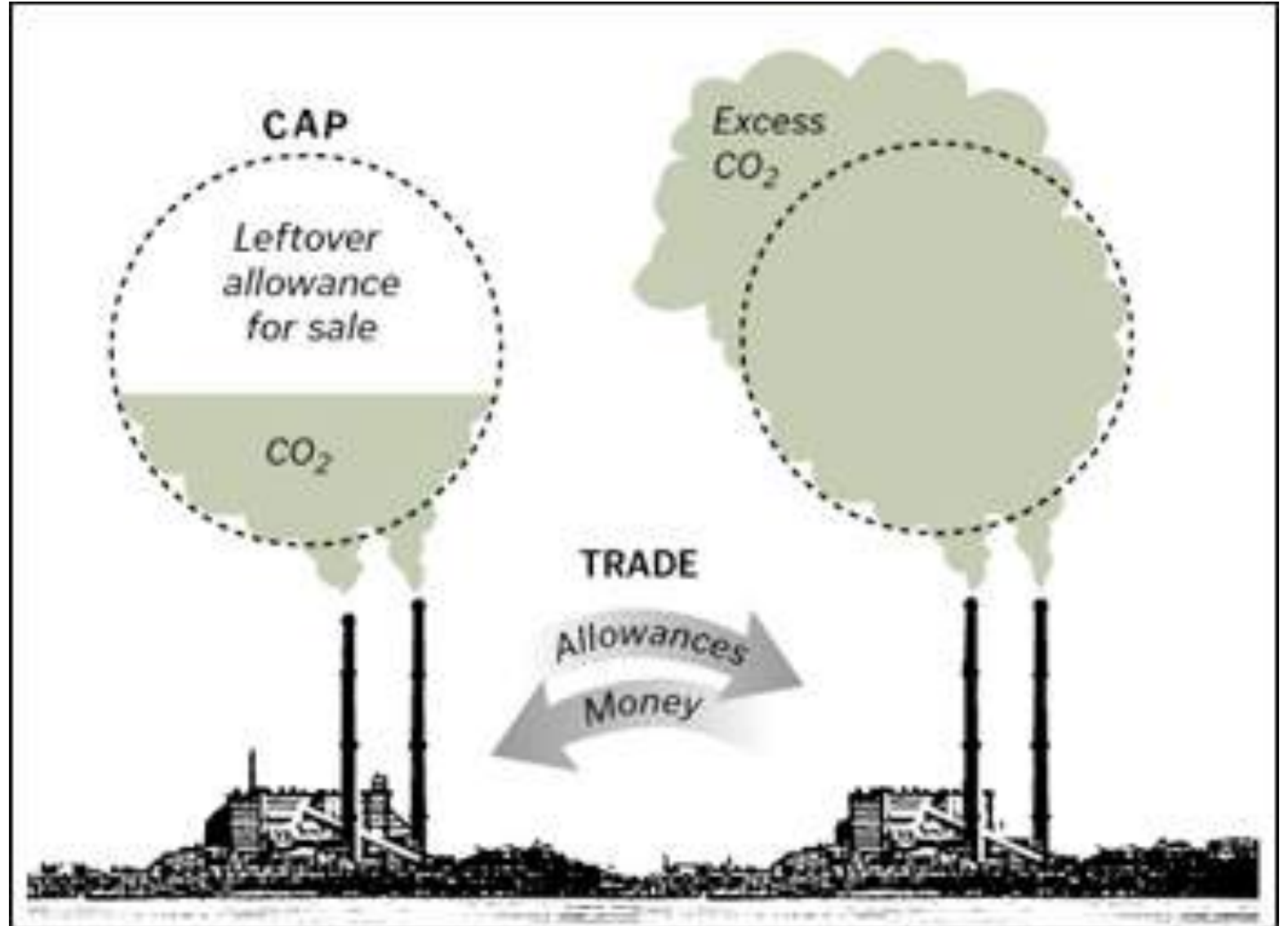
COMPLIANCE: FLEXIBLE and SIMPLE



THESE SUPPLIERS MEASURE, MONITOR + REPORT CARBON CONTENT
AND "TURN IN" ALLOWANCES TO "COVER" CARBON CONTENT
AT THE END OF EACH COMPLIANCE PERIOD

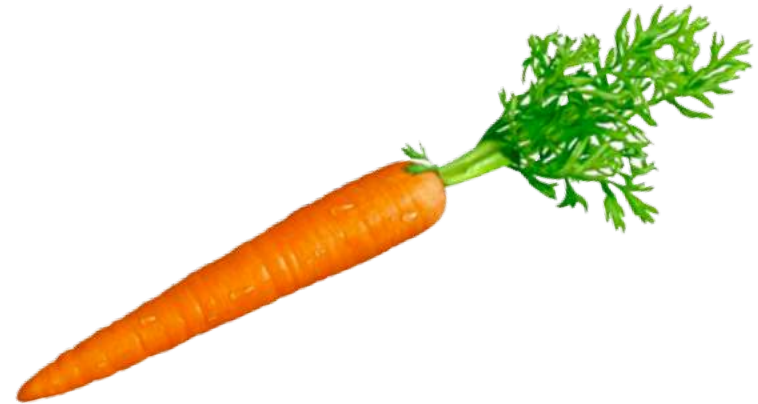
Cap-and-Trade

Allowances (permits to emit) sold or traded as part of a larger market-based system



Cap-and-Invest: the Role of Revenue Recycling

- Today, $\geq 60\%$ of RGGI auction revenue dedicated to EE programs:
 - Saving consumers money,
 - Reducing emissions, and
 - Delivering economic benefits



Cap-and-Invest Program



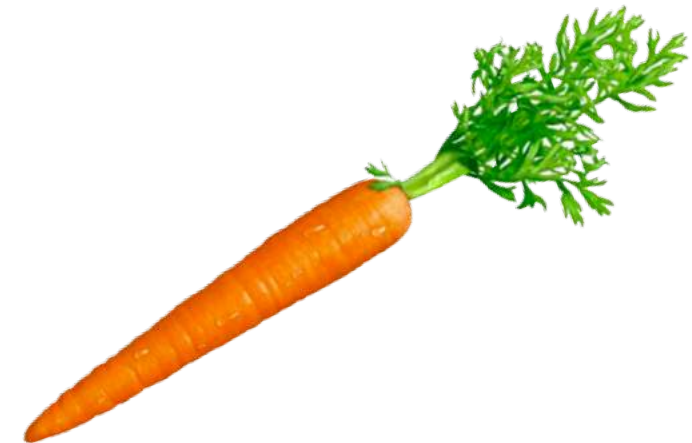
Reductions come,
not so much **from**
the program's **price**
on carbon, but from
investing the
program proceeds.



Cap-and-Invest Program



Reductions come,
not so much from
the program's price
on carbon, **but from
investing** the
program **proceeds**.



Q&A

How Should/Will VT Invest TCI Revenues?

- Clean transportation investments could:
 - Improve air quality for overburdened communities,
 - Create jobs and economic growth,
 - Reduce traffic congestion, and
 - Increase access to affordable transportation options.
- What are Vermont's needs?
 - Reducing air pollution,
 - Investing in low-carbon transportation systems
 - That address environmental/economic inequalities, and
 - Improve public health through reducing pollution and expanding access to health services.
 - Expanding public transit services,
 - Incentives for cleaner vehicles, and
 - Ensuring that transportation options like walking, biking, and public transit are accessible, affordable, and safe.
 - Other?