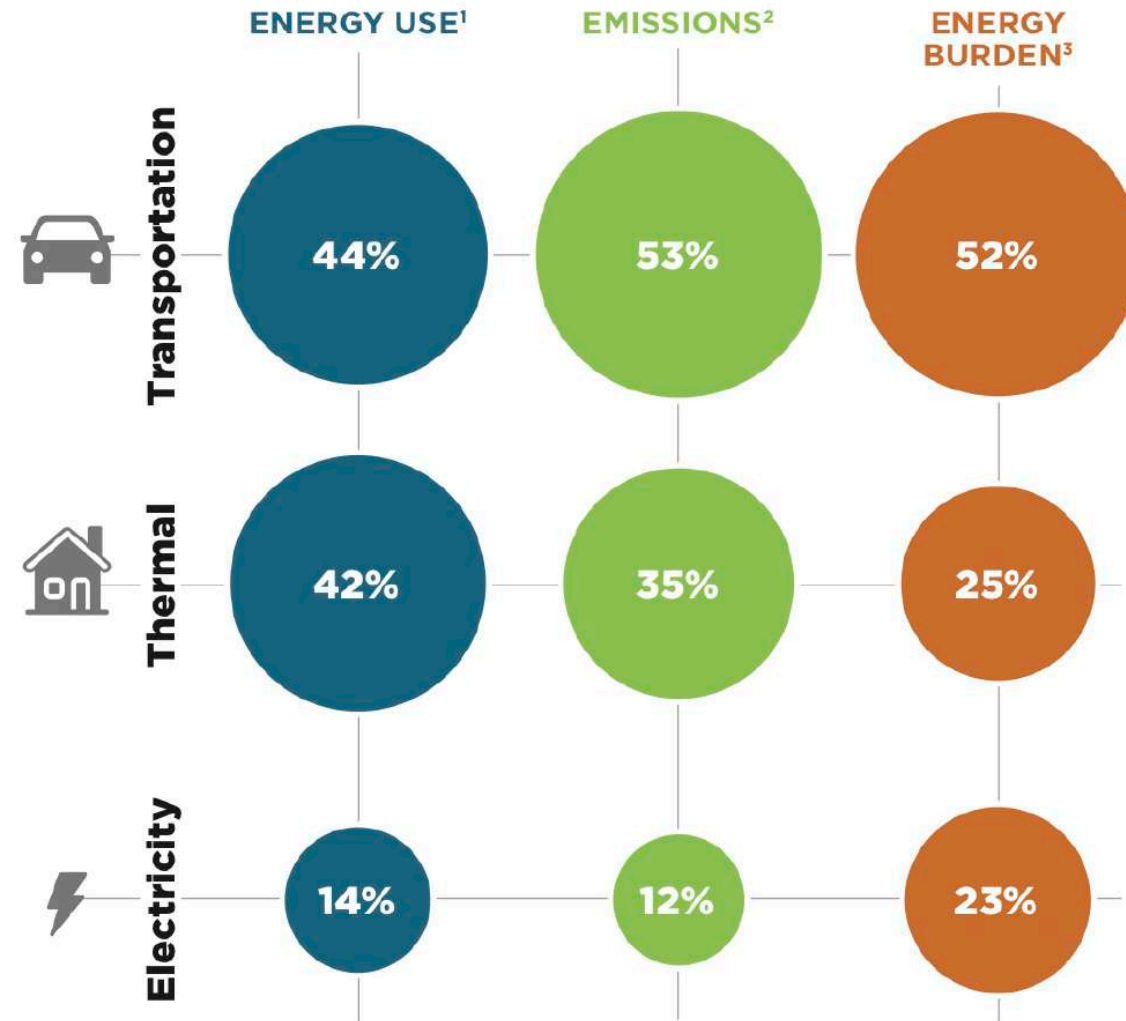


Combating Climate Change in Every  
Committee Room:  
*A 2020 Legislative Preview*

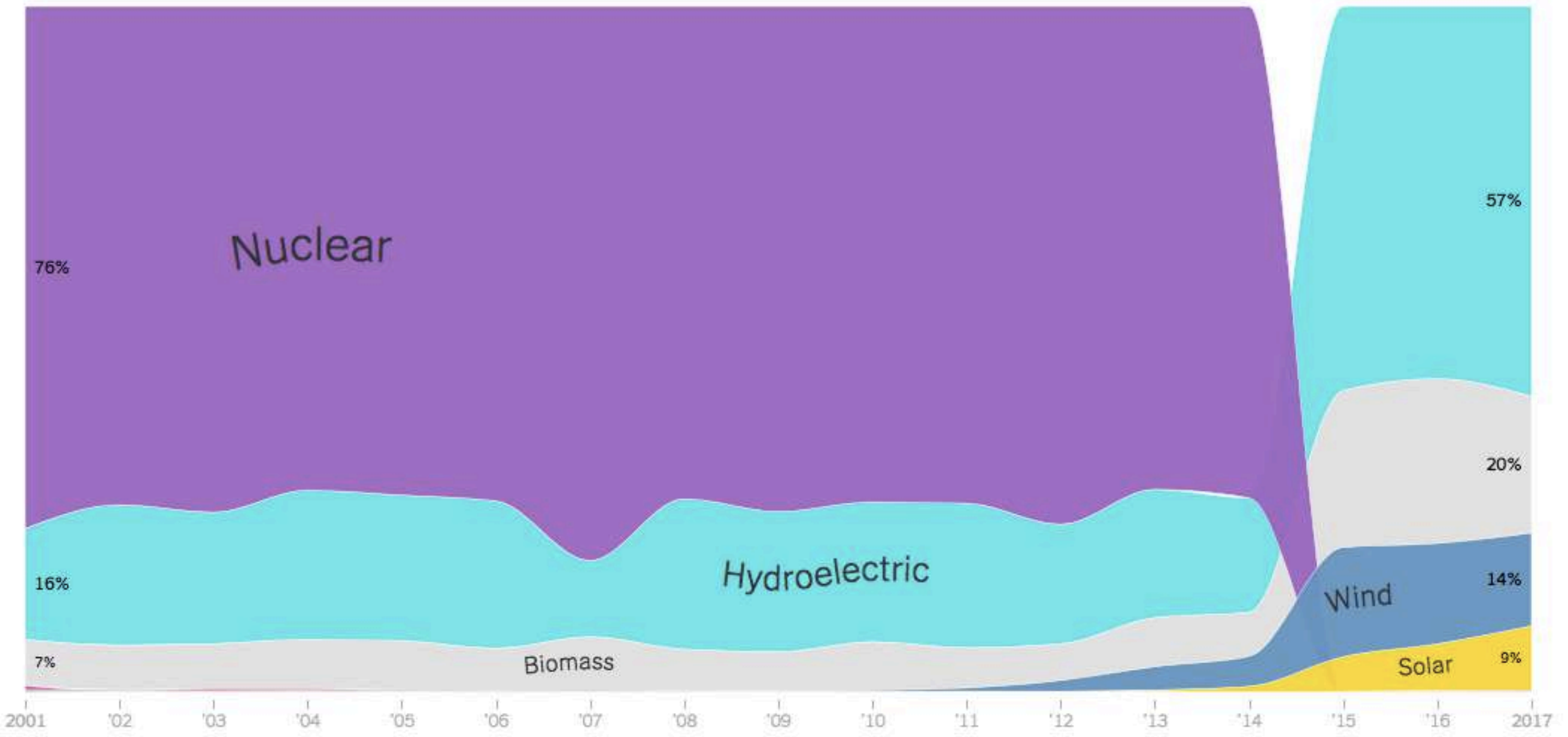
# VERMONT TOTAL ENERGY & EMISSIONS | 5



Source: EAN 2018 Report

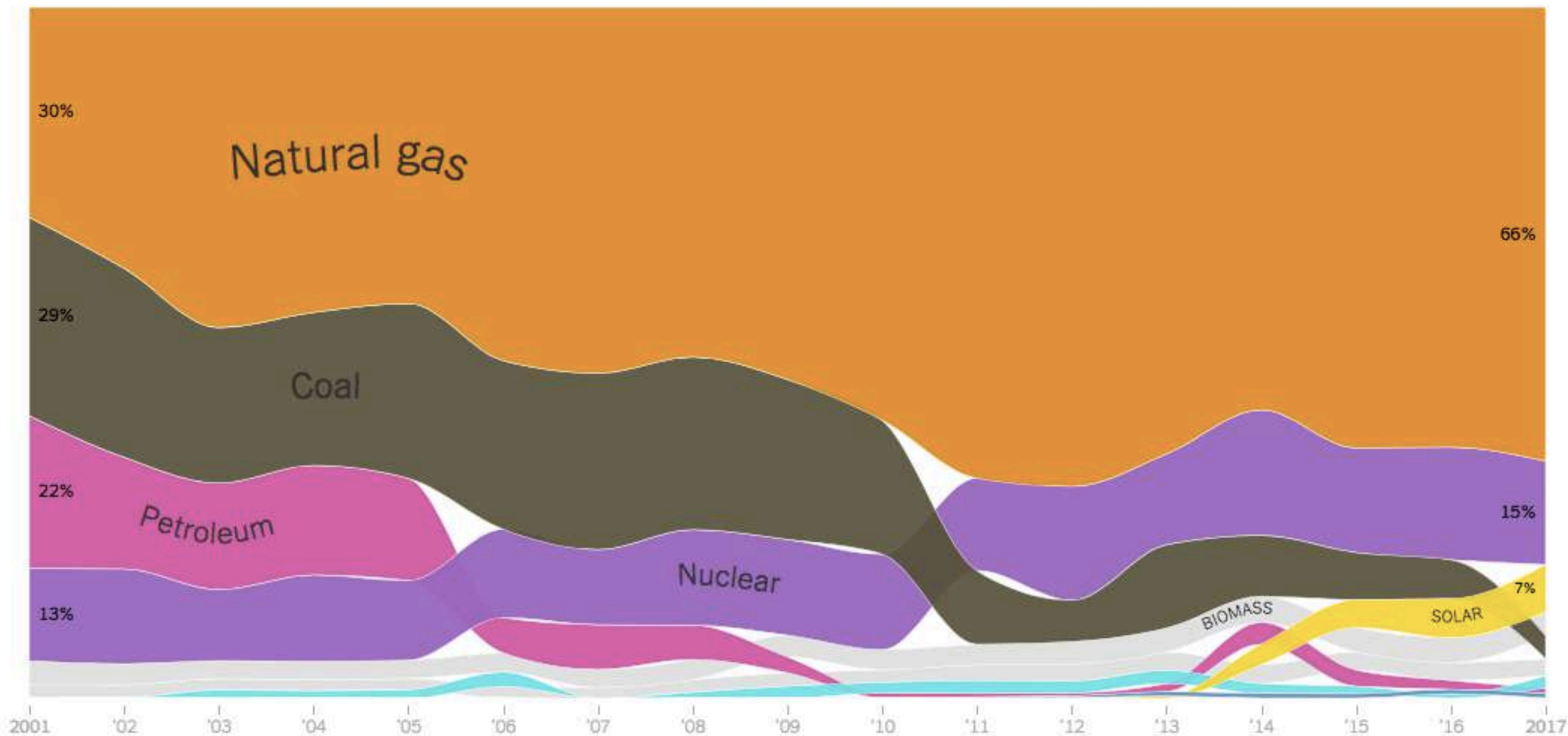
# How **Vermont** generated electricity from 2001 to 2017

Percentage of power produced from each energy source



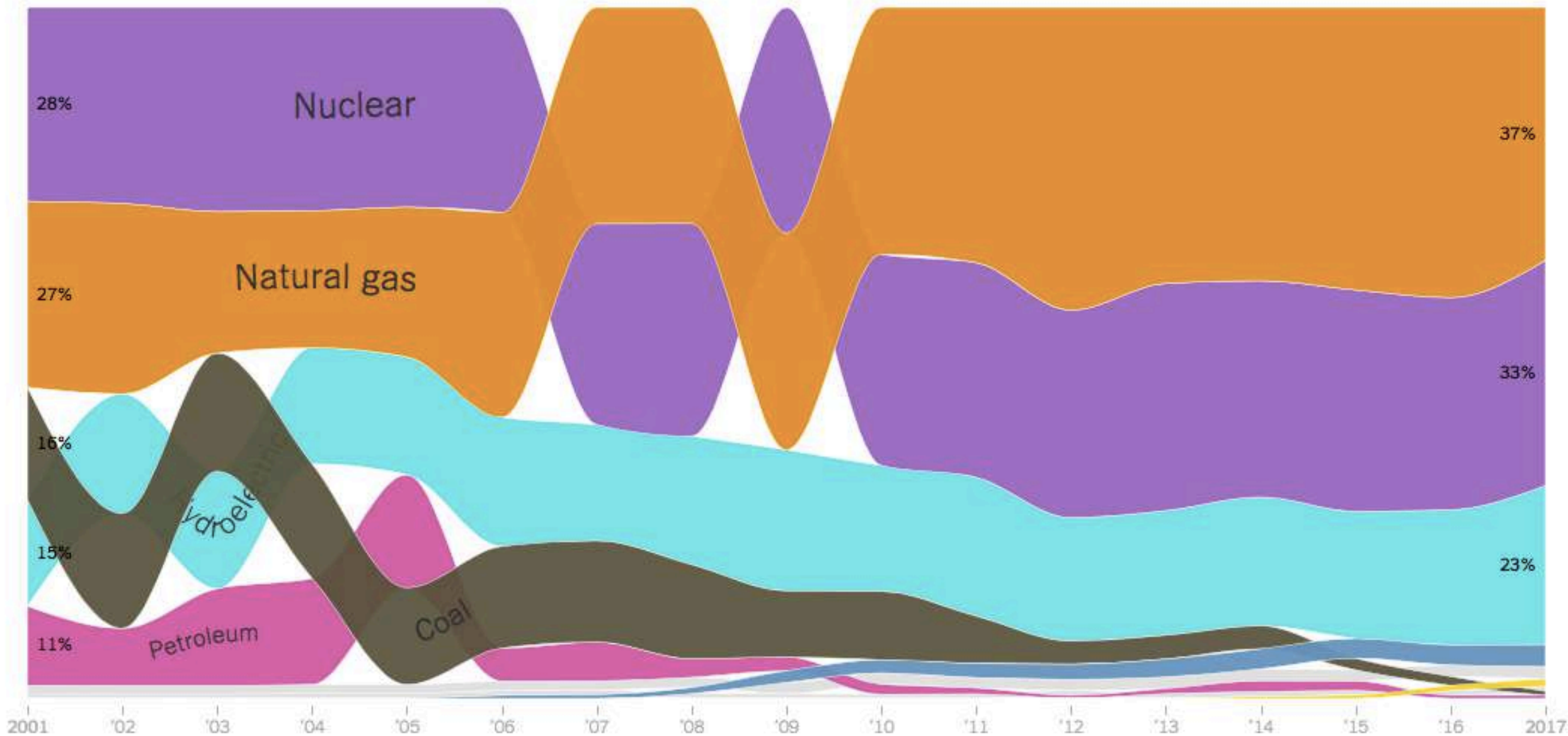
# How **Massachusetts** generated electricity from 2001 to 2017

Percentage of power produced from each energy source

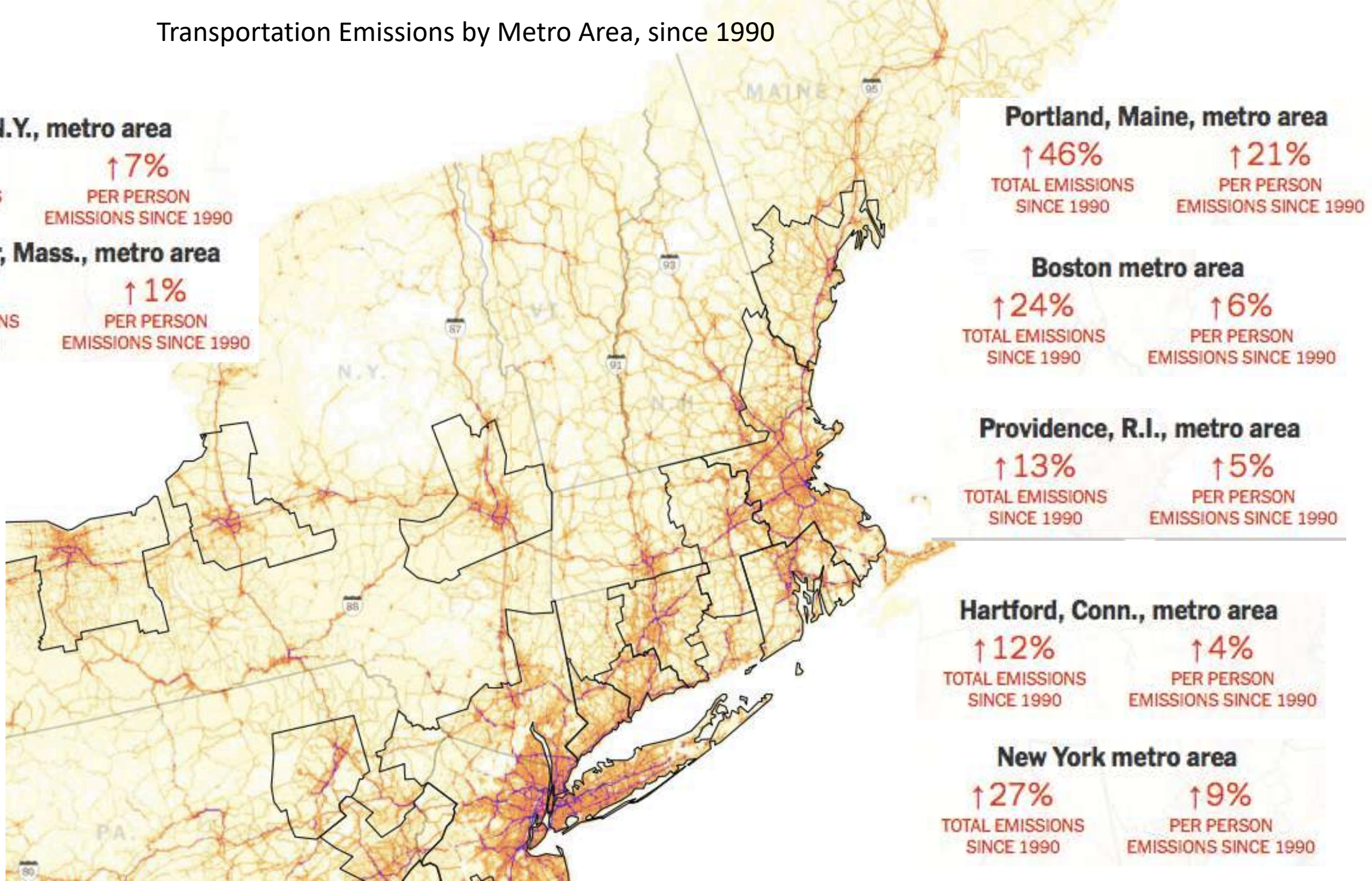


# How **New York** generated electricity from 2001 to 2017

Percentage of power produced from each energy source:



# Transportation Emissions by Metro Area, since 1990



## Albany, N.Y., metro area

↑ 17%

TOTAL EMISSIONS  
SINCE 1990

↑ 7%

PER PERSON  
EMISSIONS SINCE 1990

## Worcester, Mass., metro area

↑ 18%

TOTAL EMISSIONS  
SINCE 1990

↑ 1%

PER PERSON  
EMISSIONS SINCE 1990

## Vermont

↑ 28%

## Portland, Maine, metro area

↑ 46%

TOTAL EMISSIONS  
SINCE 1990

↑ 21%

PER PERSON  
EMISSIONS SINCE 1990

## Boston metro area

↑ 24%

TOTAL EMISSIONS  
SINCE 1990

↑ 6%

PER PERSON  
EMISSIONS SINCE 1990

## Providence, R.I., metro area

↑ 13%

TOTAL EMISSIONS  
SINCE 1990

↑ 5%

PER PERSON  
EMISSIONS SINCE 1990

## Hartford, Conn., metro area

↑ 12%

TOTAL EMISSIONS  
SINCE 1990

↑ 4%

PER PERSON  
EMISSIONS SINCE 1990

## New York metro area

↑ 27%

TOTAL EMISSIONS  
SINCE 1990

↑ 9%

PER PERSON  
EMISSIONS 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

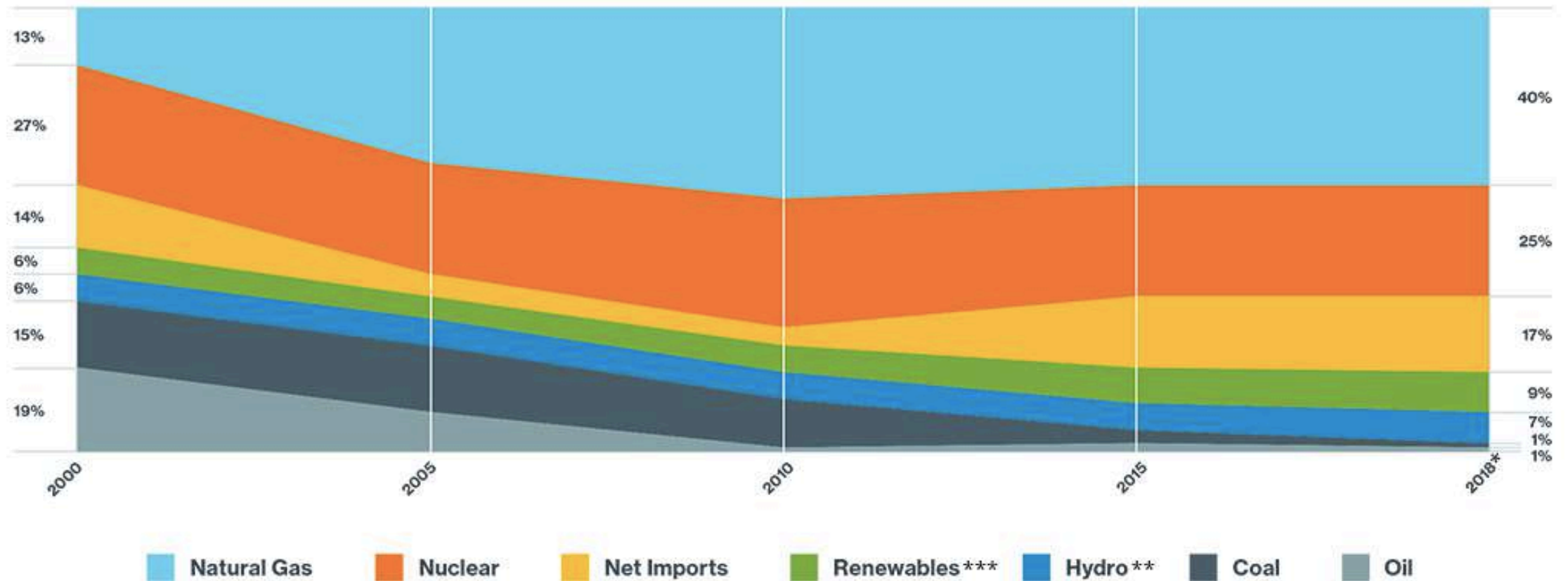


**Tim Ashe**  
@TimAsheVT



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

# Percent of Total Electric Energy by Resource Type



\*Data are subject to adjustments. This chart approximates the amount of generation by individual fuels used by dual-fuel units, such as natural-gas-fired generators that can switch to run on oil and vice versa. Before 2016, generation from such units was attributed only to the primary fuel type registered for the unit.

\*\*Includes pondage, run-of-river, and pumped storage.

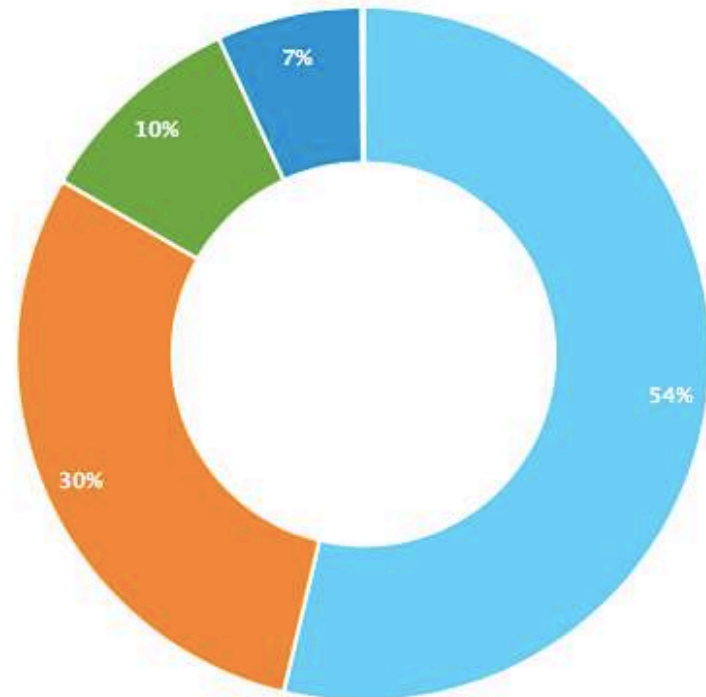
\*\*\*Renewables include landfill gas, biomass, other biomass gas, wind, grid-scale solar, municipal solid waste, and miscellaneous fuels. Hydro is not included in this category primarily because the various sources that make up hydroelectric generation (i.e., conventional hydroelectric, run-of-river, pumped storage) are not universally defined as renewable in the six New England states.



# Real-Time Maps and Charts

[BACK TO REAL-TIME MAPS AND CHARTS](#)

\$



54% **NATURAL GAS**

30% **NUCLEAR**

10% **RENEWABLES**

7% **HYDRO**

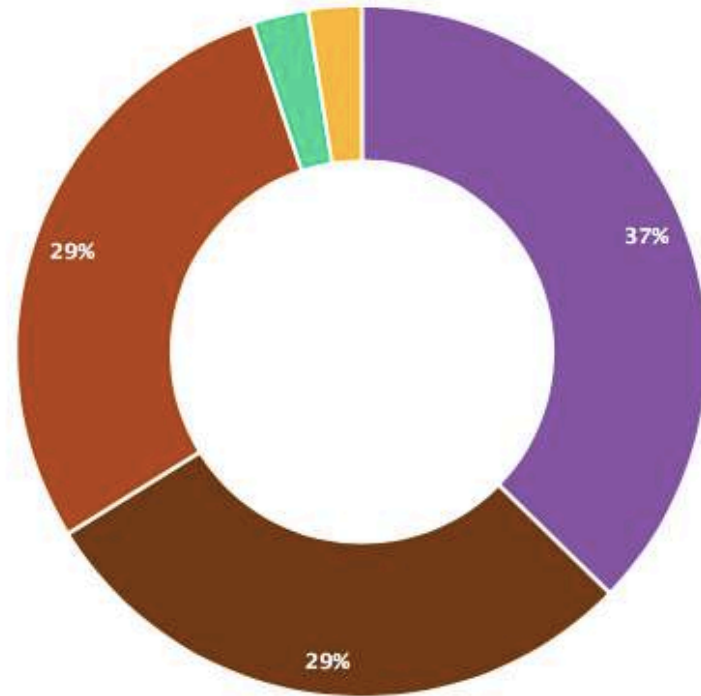
<1% **COAL**

<1% **OTHER**

**MARGINAL FUEL: NATURAL GAS**

# Real-Time Maps and Charts

[BACK TO REAL-TIME MAPS AND CHARTS](#)



- 37% WIND
  - 29% REFUSE
  - 29% WOOD
  - 3% LANDFILL GAS
  - 3% SOLAR
- MARGINAL FUEL: NATURAL GAS**

## 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.

# 2019 Legislative Action on Non-Transportation Emissions

- \* **Doubled Weatherization funding.**
- \* **Re-authorized the State Energy Management Plan, a program that makes smart energy efficiency and renewable energy investments in state owned buildings and property. Last year the program made investments with \$3.6M in projected lifetime savings.**
- \* **Extended an important advanced wood boiler tax credit to enable the deployment of additional clean, efficient wood chip boilers and to foster continued development of a market for local wood.**
- \* **Provided half a million dollars to help purchase several extremely large tracts of forest land to preserve important resources which take in carbon. This was in addition to our legislation that opens up a carbon forest sequestration credit market.**

# Fighting Climate Change in Every Committee Room

- Agriculture – Forest Carbon Sequestration
- Economic Development, Housing and General Affairs – Promotion of new housing and investment in downtowns and village centers
- Education – Improving the environmental performance of K-12 and higher education school buildings
- Finance – Accelerating utilities' requirement to reach 100% renewably sourced electricity, modernizing Efficiency Vermont's mission

- Government Operations – Professional licensing requirements
- Health and Welfare – Resiliency planning for climate related health impacts
- Institutions – Energy improvements to state owned buildings
- Judiciary – Ensuring Vermont is aggressively participating in the lawsuit protecting Corporate Average Fuel Economy standards

- Natural Resources and Energy – Advances in battery storage, addressing in-state hydro issues
- Transportation – TCI, public transit, transition of statewide auto fleet
- Appropriations – Figuring out how to pay for all of this



