# Commonwealth Transportation Board
# Environmental Committee

VDOT Central Office
1401 East Broad Street
Richmond, Virginia 23219

September 15, 2021

*The meeting was called to order at 8:00 a.m.*

Members of the Committee in Attendance: Rob Cary, Chair; Mary Hynes, Stephen Johnsen, Scott Kasprowicz, Mark Merrill

Other CTB Members in Attendance: Shep Miller

**Welcome**
Rob Cary, Chief Deputy Commissioner, VDOT

**Approval of July meeting minutes**

**Overview of DEQ's Statewide GHG Efforts**
Thomas Ballou, Air Data Analysis & Planning Manager, DEQ

The presentation covered DEQ's climate mitigation efforts.

- Setting baselines and targets
- Creating air quality plans when a community experiences ozone problems
- Similar to work VDOT does, DEQ is putting together inventories
- Ensures conformity of transportation sector with Clean Air Act

- DEQ focuses on vehicles, fuels, other tech to reach climate goals and GHG reductions.
- VDOT's transportation planning looks at reducing VMT when possible

- There are corresponding roles and collaboration between DEQ and VDOT

- Kasprowicz: Is there a national model that applies to DEQ's modeling?
- Ballou: Each non-attainment area is dealt with differently. The conformity process sometimes requires DOTs to show measures indicating they are compliant with air quality goals.
- Cary: VMT is currently the primary means we have for dealing with climate change.
- Merrill: As we look to rail, mass transit, and congestion mitigation measures to reduce GHG emissions, is this VDOT's role solely, or will it be done in conjunction with DEQ?
- Ballou: Typically a DOT role. DC's transportation board did an analysis, showing that to meet a goal, they need more GHG reductions within transportation.
- Virginia Energy Policy (§ 67-102 & 201) – Reduce GHG emissions to net zero by 2045.
- Virginia Clean Economy Act (Chapter 1191 of the 2020 Acts of Assembly) directs DEQ to establish clean energy standards for the power sector (regulated authorities) to reach net-zero carbon emissions by 2040. Due in 2022.
- Kasprowicz: How can you measure whether a sector is succeeding with targets?
- Ballou: Any 10-year plan might rely more on the power sector than other sectors.
- DEQ Chief Deputy Director Chris Bast: The planning process is not new but has been refined. Every 4 years, the new Governor has to deliver energy plan to the General Assembly in the first year. The next energy plan to be delivered will target climate change and emissions. The Virginia Department of Energy is lead on this effort.
- Hynes: We would like to see this report when it comes out next October.
- Ballou: RGGI allocates money for climate change planning.
- Kasprowicz: Is DEQ properly resourced to meet these charges?
- Ballou: The first three auctions now have raised significant funding for GHG reduction and other climate change efforts.
- Kasprowicz: How are shoreline preservation issues and GHG reduction split?
- Ballou: 50% to low-income energy efficiency and 49% to shoreline projects (laid out in statute).
- Merrill: What percentage of GHG emissions come from power sector?
- Ballou: 21% (based on 2018 inventory)
- The EPA awarded a grant to the Virginia Port Authority under the federal Diesel Emission Reduction Act to replace diesel cargo handling equipment with hybrid diesel-electric equipment under the Port's Green Operator Program, a voluntary program designed to help motor carriers replace aging trucks with newer models.
- Clean car standards – DEQ now has legislative approval to adopt LEV standards

- Legislative authority to require enhanced reporting on emissions for better data collection
- Legislative action to eliminate exemption for hydrofluorocarbons (HFCs).
- DEQ has been conducting inventories for over 10 years and is ramping up that effort.
- 2005, 2010, and 2018 inventories are being finalized. The former two are benchmark/baseline years. This will help establish interim goals.
- 2018 inventory tells us where we are now. Uses EPA State Inventory Tool.
- VDOT State Environmental Manager Angel Deem: Our statewide analysis has a 2015 starting year. We did a comparison with the inventory, and we are very close. We will look at using 2005 or 2010 as a baseline to bring the inventories even closer together.
- Ballou: DEQ also uses VDOT activity data (VMT), DMV registration data, and other transportation data points.
- Kasprowicz: How about other transportation modes (aviation, ships)?
- Erin Lasher, DEQ: Currently, we use default data in the tool (national data that is scaled down).
- Hynes: How does your data align with TPP data, for example in Northern Virginia?
- Ballou: They have more real-time estimates of emissions in NoVa. We use that in the traditional air quality planning process. Eventually, we may be substituting the SIT tool and mobile EPA model. Same model VDOT used for statewide benchmark model. Looking at enhancements.
- Johnsen: Are you collecting info from military installations in Hampton Roads re. GHG emissions?
- Ballou: They are covered, but it would be a rough estimate (e.g., information received from the Port). We hope to enhance this type of reporting. It will become important in terms of accounting.
- Accounting and inventories are not the same thing: put together for different purposes.
- Johnsen: Solar energy expanding dramatically; Virginia is getting started with wind. Have you talked about small nuclear? There are 15-20 nuclear reactors sitting in the harbor. Including this sort of power may be required to get us to where we want to be in terms of electrification.
- Ballou: The "power sector trends" graph incorporates expanded solar requirements, wind, and retention of Dominion's existing two nuclear power plants. The discussion of small nuclear has not come up. DEQ will pass on the recommendation to Dominion.
- Base: The current charge is to do a least-cost pathway model. The public comment period open through October 9th.
- Ballou: There are 140.7 million metric tons of GHG emissions statewide (all sectors).
- 48.9 million metric tons come from transportation. We have achieved an 8% reduction since 2005 simply based on improving efficiency.

- Preliminary projections for on-road vehicles. Emissions are going down because of current efficiency standards. The curve flattens out around 2045 with no additional changes.
- Federal CAFE standards (NHTSA's Corporate Average Fuel Economy standards) for electric vehicle adoption growth rates were applied.
- Virginia is working on a statewide fast charging network. There are 132 fast chargers out there (54% of the way toward the goal). 160 chargers to be distributed throughout the Commonwealth so most Virginians will be within 30 minutes of a DC fast charger.
- Rob: Is DEQ looking at equity measures in terms of distribution?
- Ballou: We haven't focused as much on that through the contract with EVgo. We are looking more at population-based, focused on urban areas, rather than on specific populations.
- On top of all the other public and private exercises going on, there will be 2000-3000 total chargers.
- Bast: Equity is being address through the goal of ensuring that 98% of Virginians are within 30 miles of any charger and 93% within 30 miles of a fast charger.
- Hynes: Electric transit and school buses address equity issues including air quality.
- Merrill: Do you have an estimate for how much it would cost to implement electric transit buses for the whole state?
- Grant Mudge, DRPT: DRPT is working on a study of what that would cost.
- Ballou: VPA has installed electric cranes through a demonstration project at Richmond Marine Terminal.
- MWAA has received a grants for shuttle bus electrification.
- Virginia now has authorization to develop clean car regulations based on California's standards. Section 177 of federal Clean Air Act allows other states to adopt these standards. Covers light trucks and cars (up to 14,000 lbs).
- Starts in model year 2025 vehicles.
- A preliminary analysis shows a 60-70% reduction in emissions by 2045 for these vehicles (based on the ZEV requirement).
- Miller: What is the percentage of emissions attributable to light duty versus all of the transportation sector?
- Lasher: 58.2% of transportation emissions is attributable to light-duty vehicles.
- Kasprowicz: Will DEQ be the clearinghouse of how other agencies conduct their modeling/plans?
- Cary: We have talked about DEQ being the expert in the measurement. They serve as an independent arbiter of what to do and how to do it.
- VDOT decides its strategies and funding. We will work with DEQ on a 3% reduction or a 10% reduction. At that point, DEQ will assess measurements and metrics.

- Bast: We (DEQ) can play a role in scenario planning across the government. EV incentives are with the Virginia Department of Energy (Virginia Energy).
- Rob: A great example is the CSX deal. We can project out into the future on reduced VMT.
- Kasprowicz: There is still a question/ambiguity about leadership and how all of these pieces fall into place, who is reporting to the legislature, etc.
- Deputy Secretary of Transportation John Lawson: The work is just getting wound up here. We are figuring out how to best work together to get to a common goal.
- Hynes: I am from Arlington and have been involved in clean energy plan development up there. The most helpful thing in the long-run for policymakers was a chart: if you do this, this happens. For the CTB, understanding the magnitude of some of the large levers available to us would be helpful. How do we begin to understand the relative difference between putting emphasis on one type of project or another? Where should we spend time and energy?
- Cary: That is exactly why we're opening an Office of Transportation Sustainability. We will continue to work closely with DEQ because they have expertise.

*The meeting was adjourned at 8:53 a.m.*