

ODOT & EPD's

WASHTO

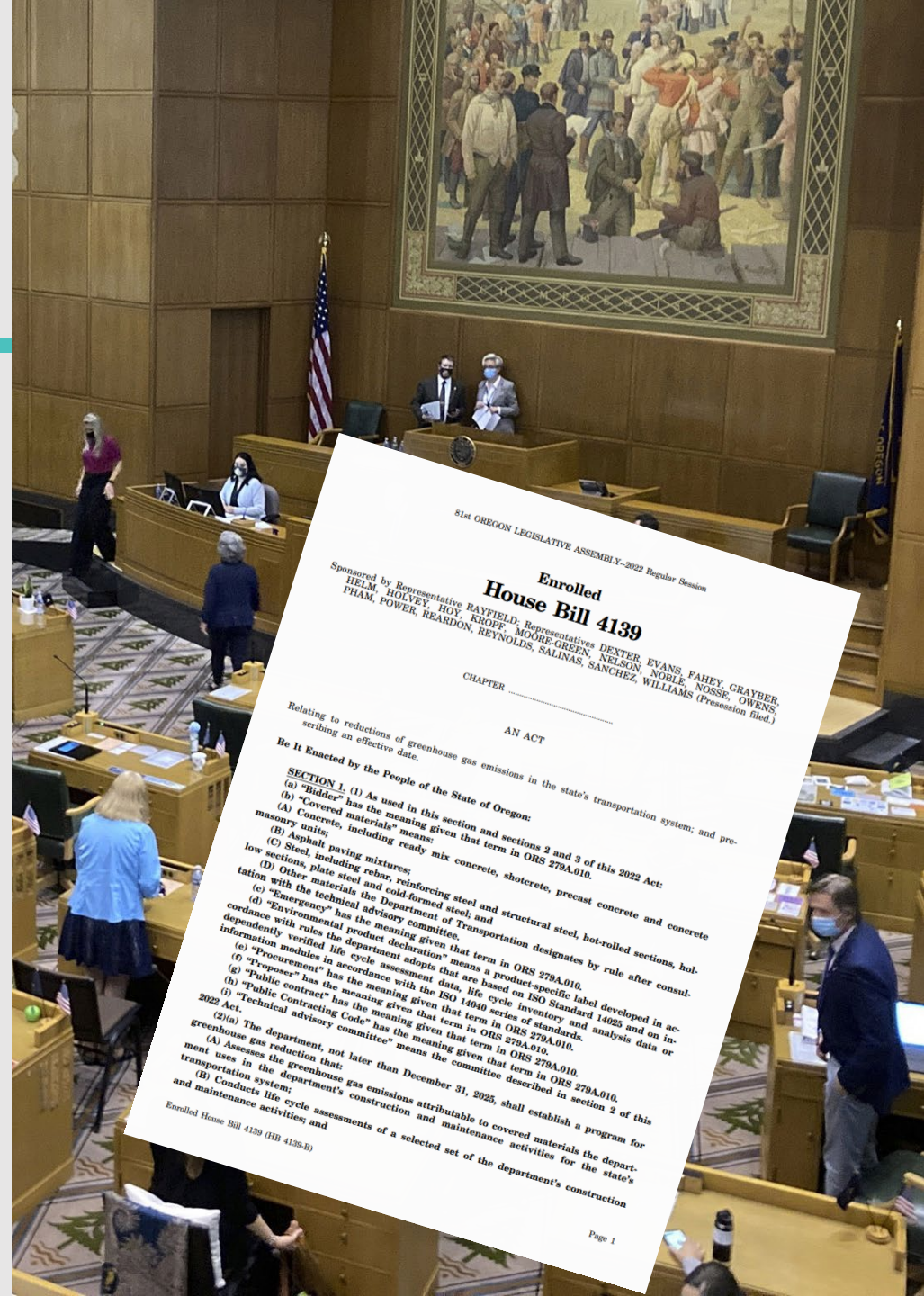
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State Construction and Materials Engineer

Oregon House Bill 4139 (2022)

- Requires ODOT to set-up a “program for GHG reductions”
- The agency to collect EPDs on asphalt, concrete and steel
- ODOT to devise strategies for reducing GHG emissions
- Allows for regional variability and prioritization of quality / performance



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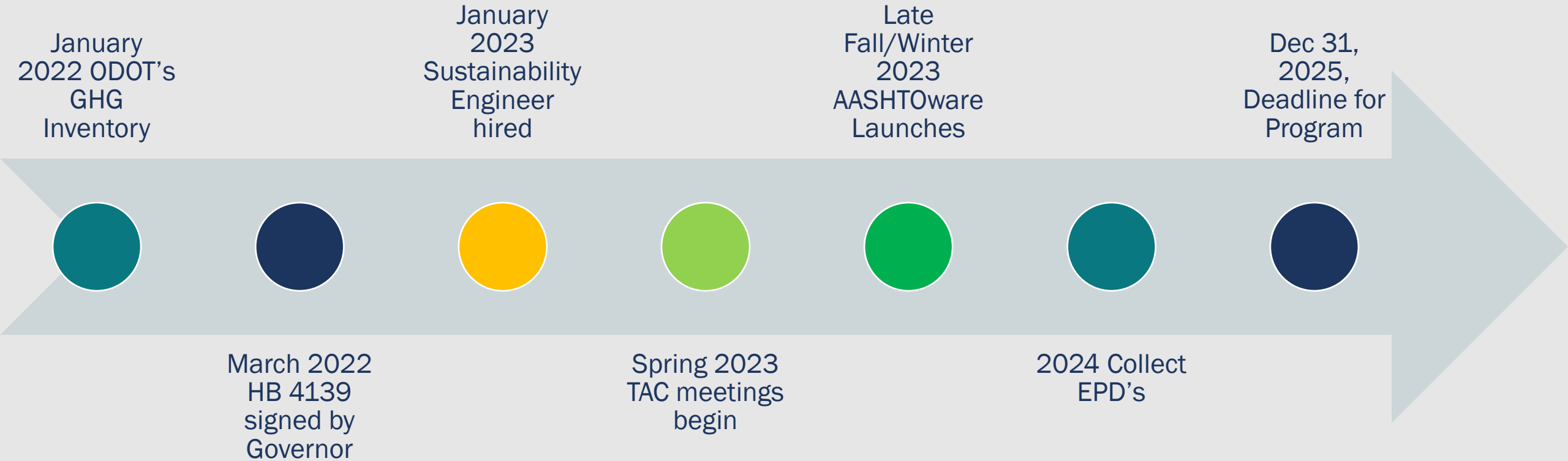
Sustainability Engineer

- Develop and Maintain GHG program
- Review the GHG's attributed to Concrete, Asphalt and Steel use
- Recommend quantity of materials exempt from EPD
- Establish Technical Advisory Committee
- Conduct LCA's
- Prepare annual report for the OTC

Technical Advisory Committee

- Mandated to consist of ODOT, DEQ, Construction Industry and Construction Material Suppliers, Environmental Sector and Academics
- Assist ODOT with developing rules and procedures of the EPD Program
- Advise ODOT on report submitted to the OTC

ODOT's EPD Timeline



What is an EPD?

- Quantifies the environmental impacts of a product.
- Based on ISO 14025 Life Cycle Assessment (LCA).
- Third-party verified to ensure compliance and accuracy.
- Allows for consideration and accounting of multiple environmental impacts in one place.
- Valid for five years.



What does it take to develop an EPD?

- One to three months of staff time for initial data collection and entry.
- Plant-specific data (location, energy use).
- Mix-specific data (quantities of ingredients, transportation distance and transportation type).

Costs to develop an EPD:

- Athena Tool - \$3,000 per plant – one year subscription
- NAPA Tool - \$3,000 (member) / \$6,000 (non-member) per plant – five-year duration*
- Economies of scale – per plant costs are reduced as more plants are included.
- (DEQ's grant program estimated \$5k for an EPD)

Grant program options so far:

- Directly reimburse contractors and suppliers.
- Partner with third party to administer program.
- Bulk subscription for existing tools.

Industry Opportunities

- Help give input to ODOT on EPD development or issues
- Participate in discussions with the TAC
- Participate in discussions that will inform EPD industry





Renewable propane proof-of-concept @ mobile asphalt plant

- Largest source of emissions for ODOT comes from the use of asphalt concrete pavement.
- Substituting renewable fuels for fossil fuels at asphalt plants offers significant emission reductions.
- September 2022 – ODOT partnered with others to test renewable propane → no noticeable difference!
- Next step: develop a life-cycle inventory for renewable propane to show emission benefit and help inform decision making.

Steps to complete life-cycle inventory:

1. Literature review.
2. System diagram: acquisition of feedstock → transport to production plant → fuel combustion / use.
3. Collect inventory data: equipment, fuel efficiencies, fuel rates, etc. for each process.
4. Run model based on collected info and general data as needed.
5. Compare with other known life-cycle inventories to ensure accuracy.

Allows for renewable propane to be used in EPD tools (NAPA Emerald Eco Label) and for apples-to-apples comparison between fossil propane and renewable propane.



Portland-Salem Expressway, Soil Density Determinations Aug 1955

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