



Department of Environmental Quality

Low Carbon Fuel Advisory Committee

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Low Carbon Fuel Standard Regulated or Opt-In Party

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Oregon DEQ



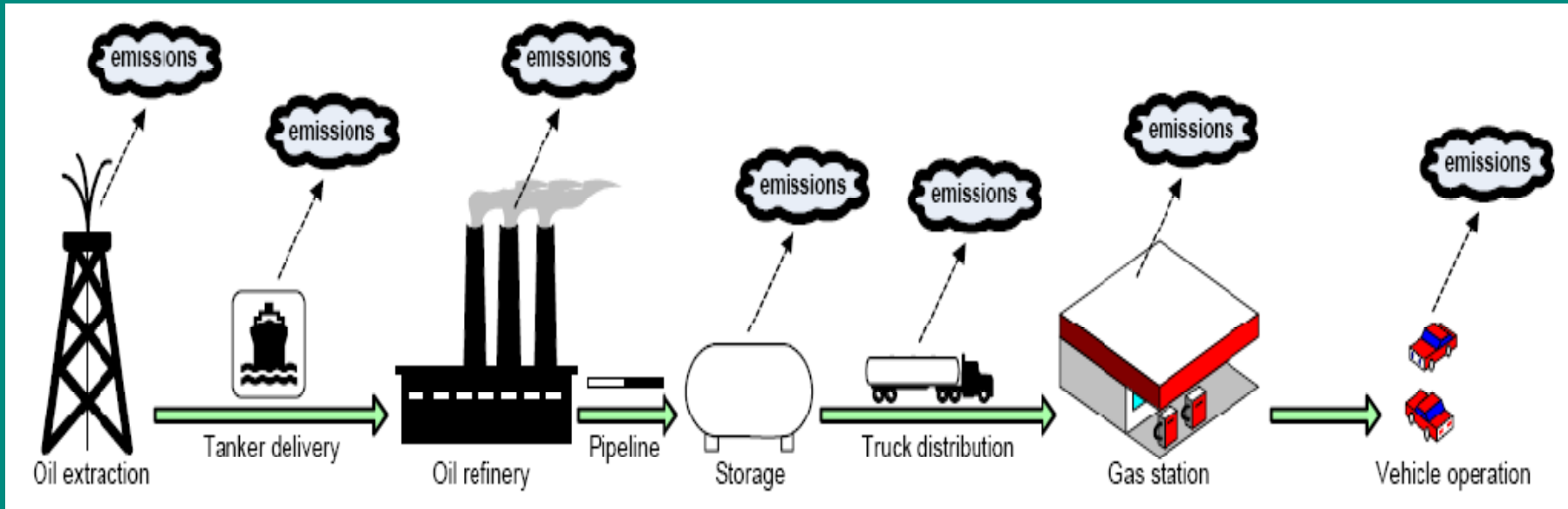
Low Carbon Fuel Standard: Regulated and Opt-In Entities

Purpose:

- **Which entity would actually be regulated or opt-in to sell credits?**
- **Information only**
- **Full discussion of regulated parties in February**



Low Carbon Fuel Standard: Regulated and Opt-In Entities





Low Carbon Fuel Standard: Regulated and Opt-In Entities

Considerations:

- **Prefer fewer, rather than many entities**
- **Physical presence in Oregon**
- **Regulated party different for each fuel**
 - Fuel supply and use
 - Percentage of fuel used for transportation
 - Want to capture only transportation use



Regulated or Opt-In Entity

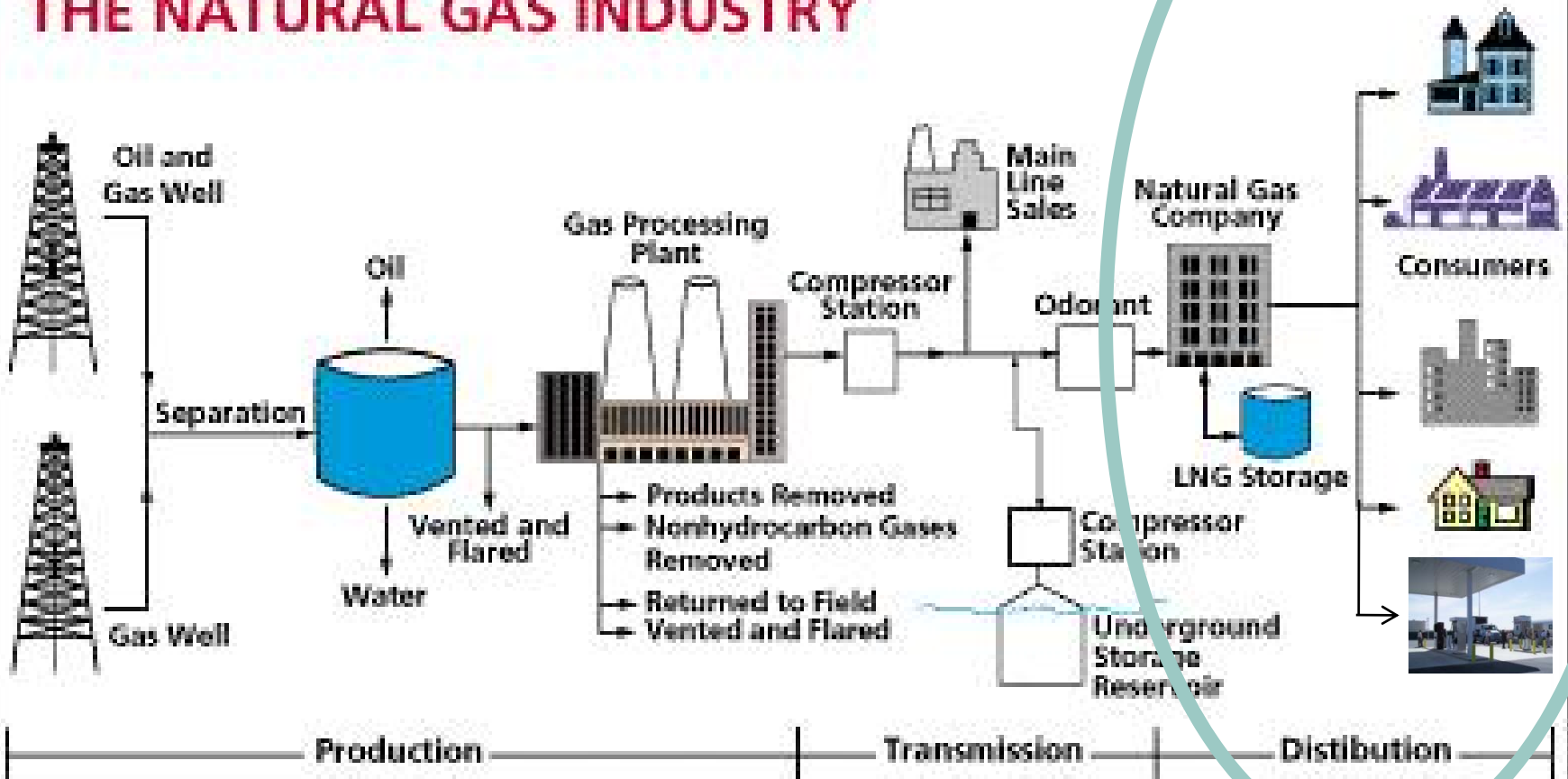
Fuels

- Compressed Natural Gas (CNG) Fossil
- Biogas (CNG or LNG)
- Liquefied Natural Gas (LNG) Fossil
- Hydrogen
- Gasoline, Diesel and Biodiesel
- **How fuel gets to user**
- **Who uses it in Oregon**
- **Proposed regulated/opt-in entity**



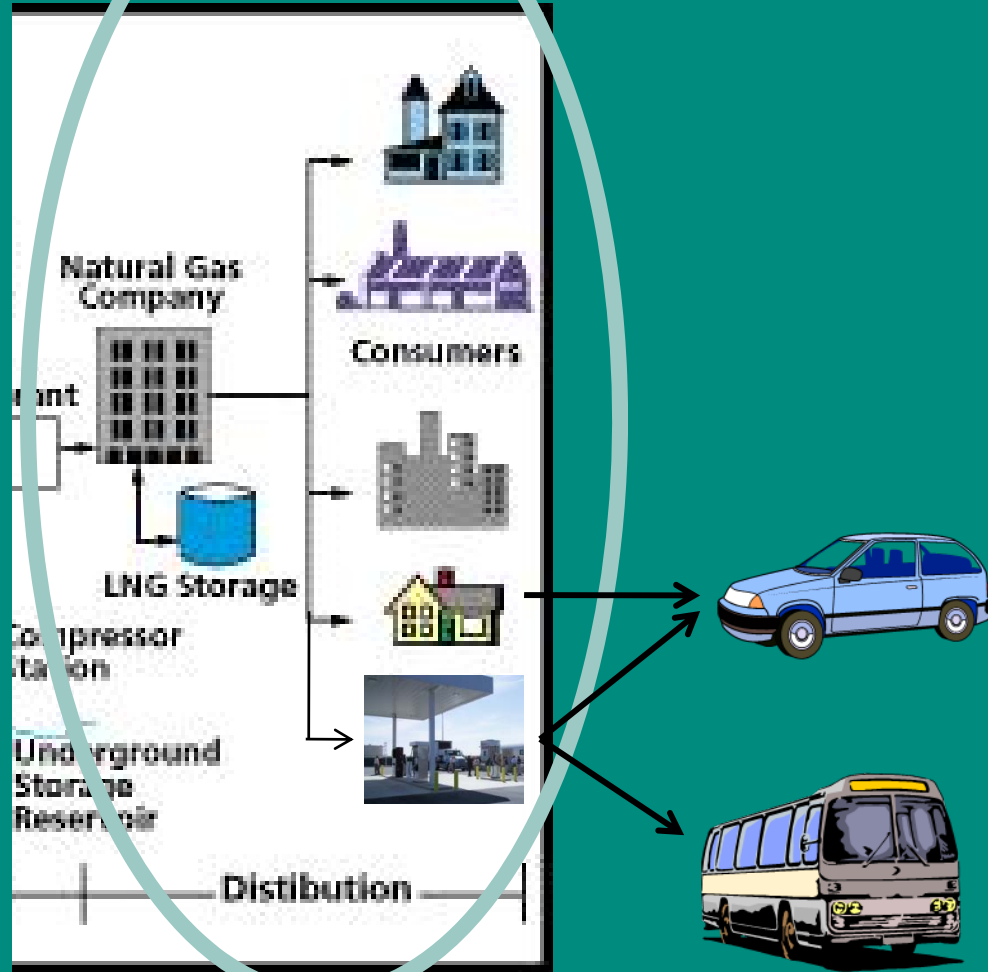
Compressed Natural Gas (fossil)

THE NATURAL GAS INDUSTRY





Compressed Natural Gas (fossil)



Source: EIA. http://tonto.eia.doe.gov/kids/energy.cfm?page=natural_gas_home-basics



Compressed Natural Gas (fossil): Vehicles

- **Approx. 1,500 CNG vehicles in OR (EIA 2007)**
- **Light Duty:**
 - One model for passenger car vehicles
 - EPA-certified conversions available
- **Heavy Duty:**
 - Some engines available
 - EPA certified re-power engines and conversions available from a variety of companies



Compressed Natural Gas (fossil): Fuel

- **Three natural gas companies (own majority of fueling stations)**
- **Ten CNG fueling stations in OR**
 - Eight are private/govt. only
 - Two sell fuel to public
- **There are home refueling units**





Compressed Natural Gas (fossil)

- **Proposed Opt-In Entities:**
 - Whoever owns the fuel dispensing equipment
- **Rationale**
 - Few entities
 - Flexible
 - Might provide incentive for public access
- **Who is this in Oregon?**
 - Three natural gas companies
 - Fleets large enough to own fuel dispensing equipment



Liquefied Natural Gas (fossil)

- Not currently used in Oregon
- Used in CA as a transportation fuel for heavy duty
- Approx 27 fueling stations in CA



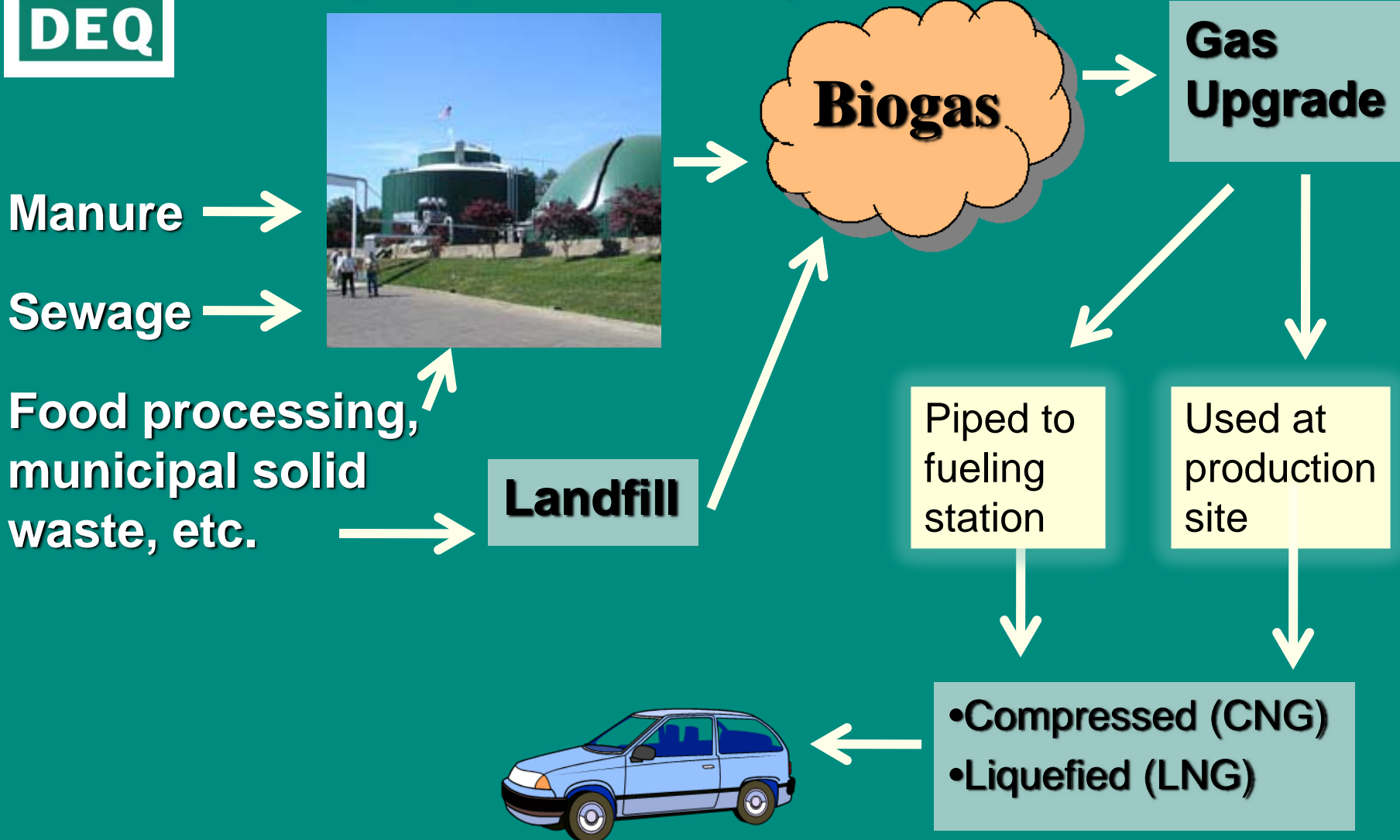


Liquefied Natural Gas (fossil)

- **Proposed Opt-In Entities:**
 - Whoever owns the fuel dispensing equipment
- **Rationale**
 - Few entities
 - More flexible than only LNG suppliers
- **Who is this in Oregon?**
 - None known



Biogas (CNG or LNG)





Biogas (CNG or LNG)

- **Limited use as a fuel in Oregon**
- **Proposed Opt-In Entities:**
 - Oregon producer or importer
- **Rationale**
 - Small number entities
 - Encourages production of biogas
 - Most biogas – not delivered through natural gas pipelines (but it could be)



Biogas (CNG or LNG)

Who is this in Oregon?

- Most biogas is not used for transportation

Biogas facilities in Oregon

Source	No. of Facilities
Landfill	6
Wastewater	9
Agriculture	3



Hydrogen

Hydrogen fuel use:

- Pure hydrogen gas
- “Fuel reformer” on board the vehicle that converts fuels such as methanol, natural gas, or gasoline
 - Internal combustion engine
 - Fuel cell vehicles



Hydrogen

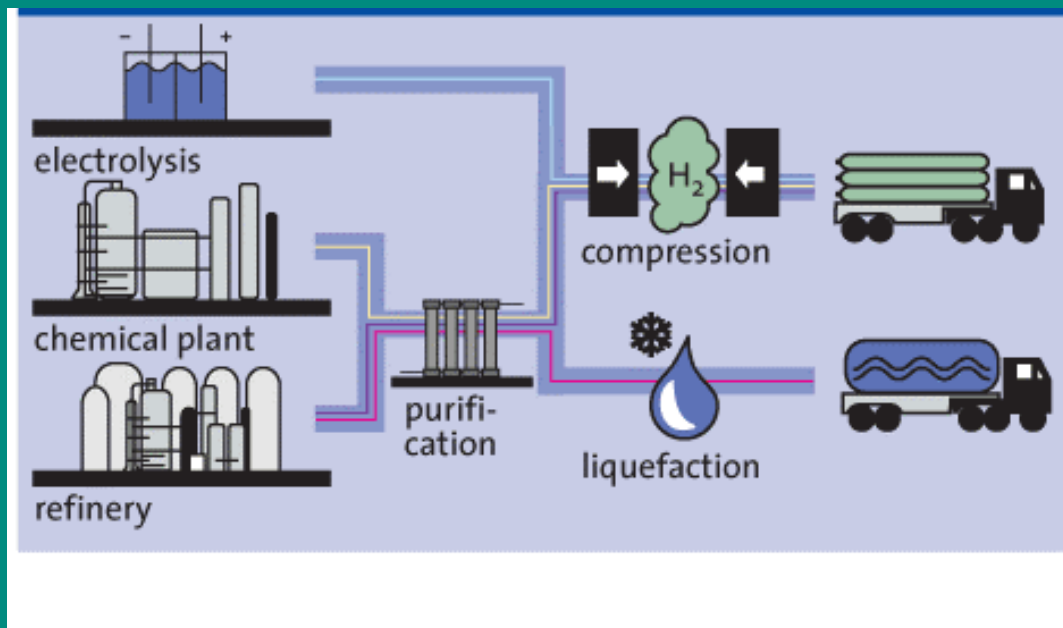


Image Source: www.global-hydrogen-bus-platform.com/Technology/HydrogenProduction/Cityspecificsupply



Hydrogen

Proposed Opt-In Entity:

- Entity who owns the fuel when the finished fuel is made or imported into Oregon

Rationale

- U.S. DOE: infrastructure based on natural gas steam reformation at the service station
- Potential for individual fuel cell owners to be the opt-in party



Gasoline, Diesel, Biofuels

Purpose for today:

- Present CA's regulated parties
- Prepare for a discussion in February



Gasoline, Diesel, Biofuels

Considerations for Oregon

- GHG reporting rule
- Current reporting to other Oregon agencies
 - ODOT
- Current DEQ permits



Gasoline, Diesel, Biofuels

CA Regulated Party: California producer or importer of the fuel or blendstock

Transfer of compliance obligation:

- Compliance obligation transfers automatically if fuel is sold to another producer or importer
- Transferor can choose to remain the regulated party
- If fuel is sold to a person who is not a producer or importer, the obligation can transfer if both parties agree.



Gasoline, Diesel, Biofuels

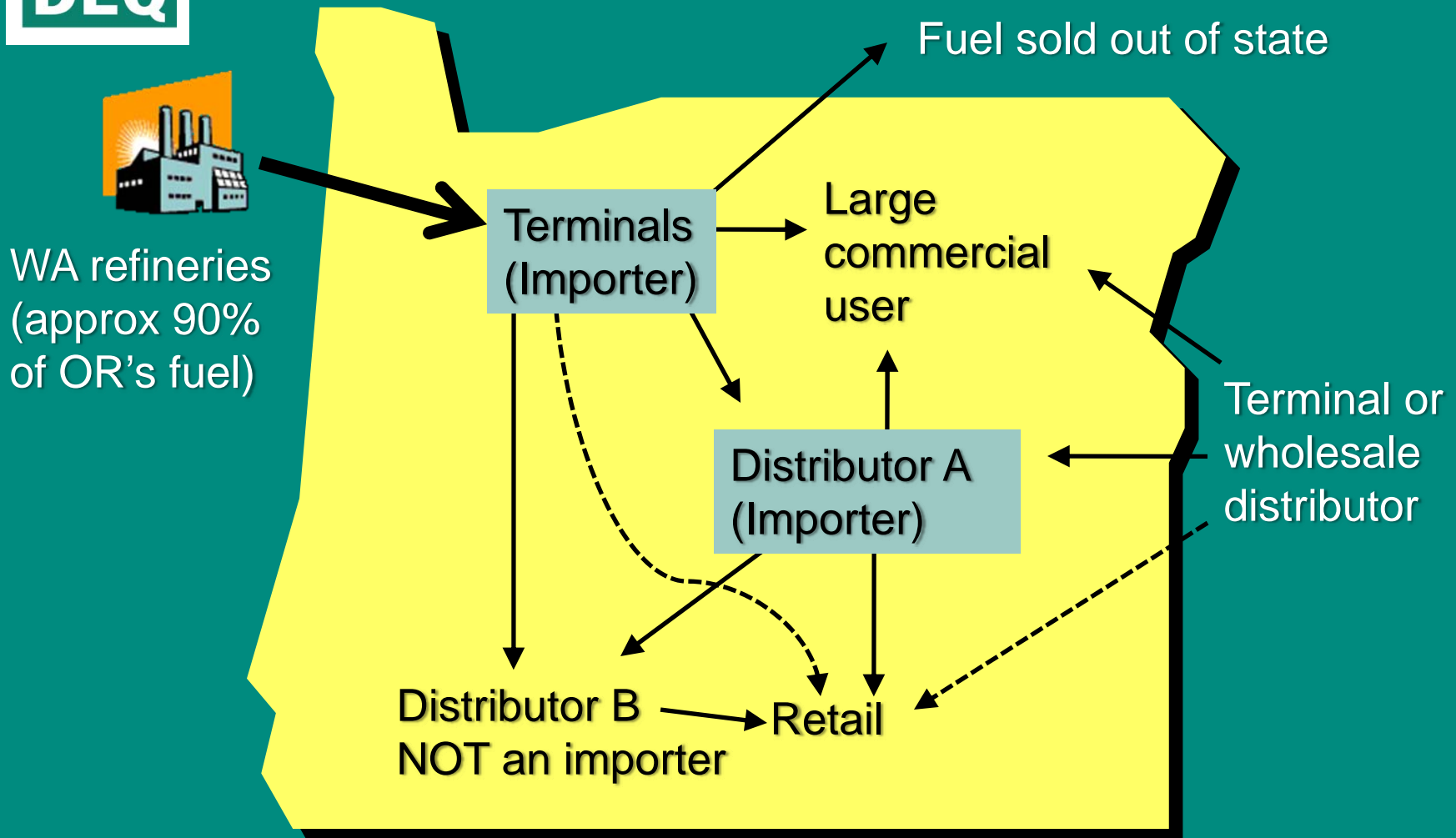
CA Regulated Party: California producer or importer of the fuel or blendstock

Rationale

- **Smaller number of entities**
- **Responsible for motor fuel quality**

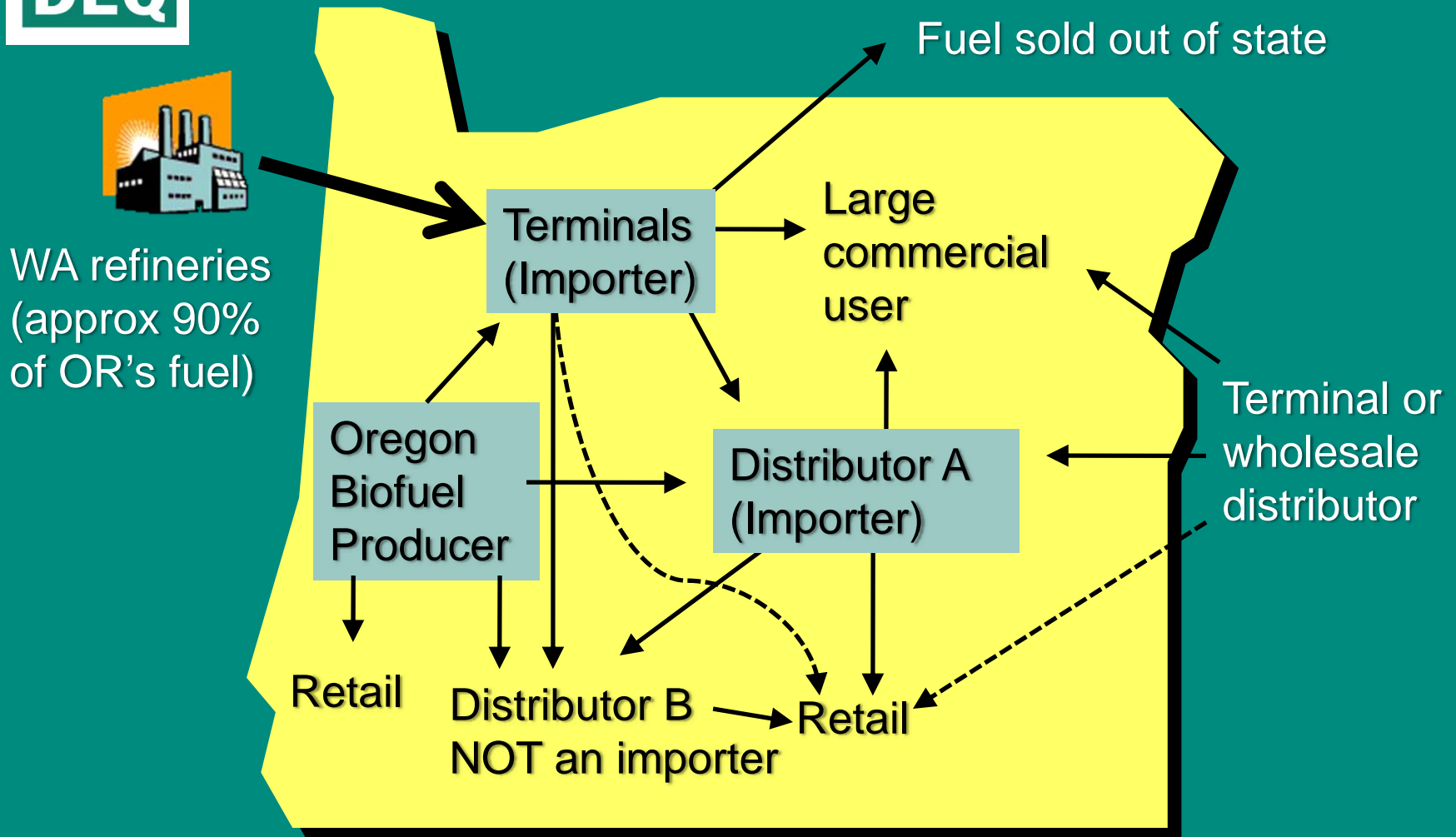


Gasoline, Diesel, Out of state Biofuels





Oregon Biofuel Producers





Summary of Regulated/Opt-In Parties

Fuel	Regulated or Opt-In?	Regulated Party
CNG (fossil)	Opt in: N. American Regulated: All other	Owner of fuel dispensing equipment in Oregon
LNG (fossil)	Regulated	Owner of fuel dispensing equipment in Oregon
Biogas CNG Biogas LNG	Opt-in	Producer or Oregon importer of fuel
Hydrogen	Opt-in	Owner of fuel when finished fuel is made or imported into Oregon
Gasoline Diesel Biofuels	Regulated	Producer or Oregon importer of fuel or blendstock



Summary of Fuel Transfer (Gasoline, Diesel, Biofuel)

Seller	Buyer	Compliance obligation
Terminal	Retail	Terminal
Terminal	Large Commercial user	Terminal
Terminal	Distributor (not an importer)	Terminal
Terminal	Distributor (importer)	Distributor (importer)
Distributor (importer)	Retail	Distributor (importer)
Distributor (importer)	Large Commercial user	Distributor (importer)
Distributor (importer)	Distributor (not an importer)	Distributor (importer)
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