

Oregon Fuel Action Plan

Senate Interim
Committee On
Environment and Natural
Resources

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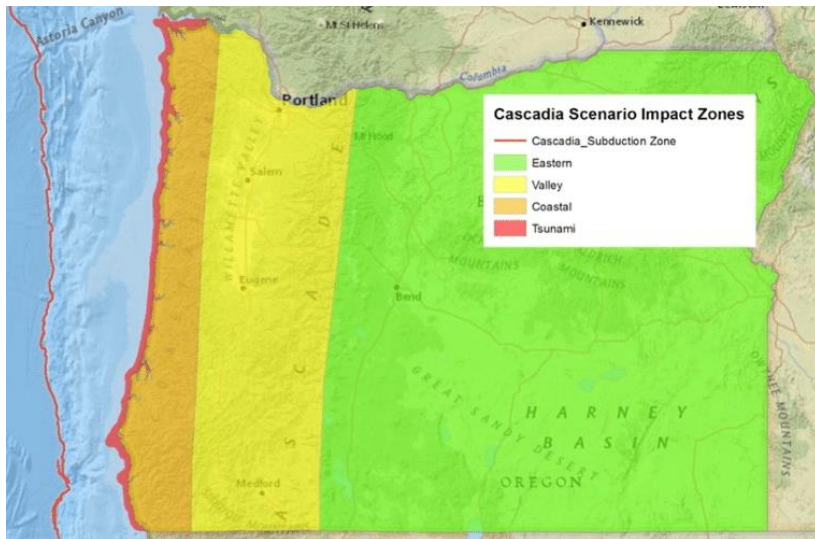
September 16, 2019



Energy Resilience & Emergency Preparedness

State Goal - Resiliency 2025:

Improving Our Readiness for the
Cascadia Subduction Zone (CSZ)
Earthquake & Tsunami



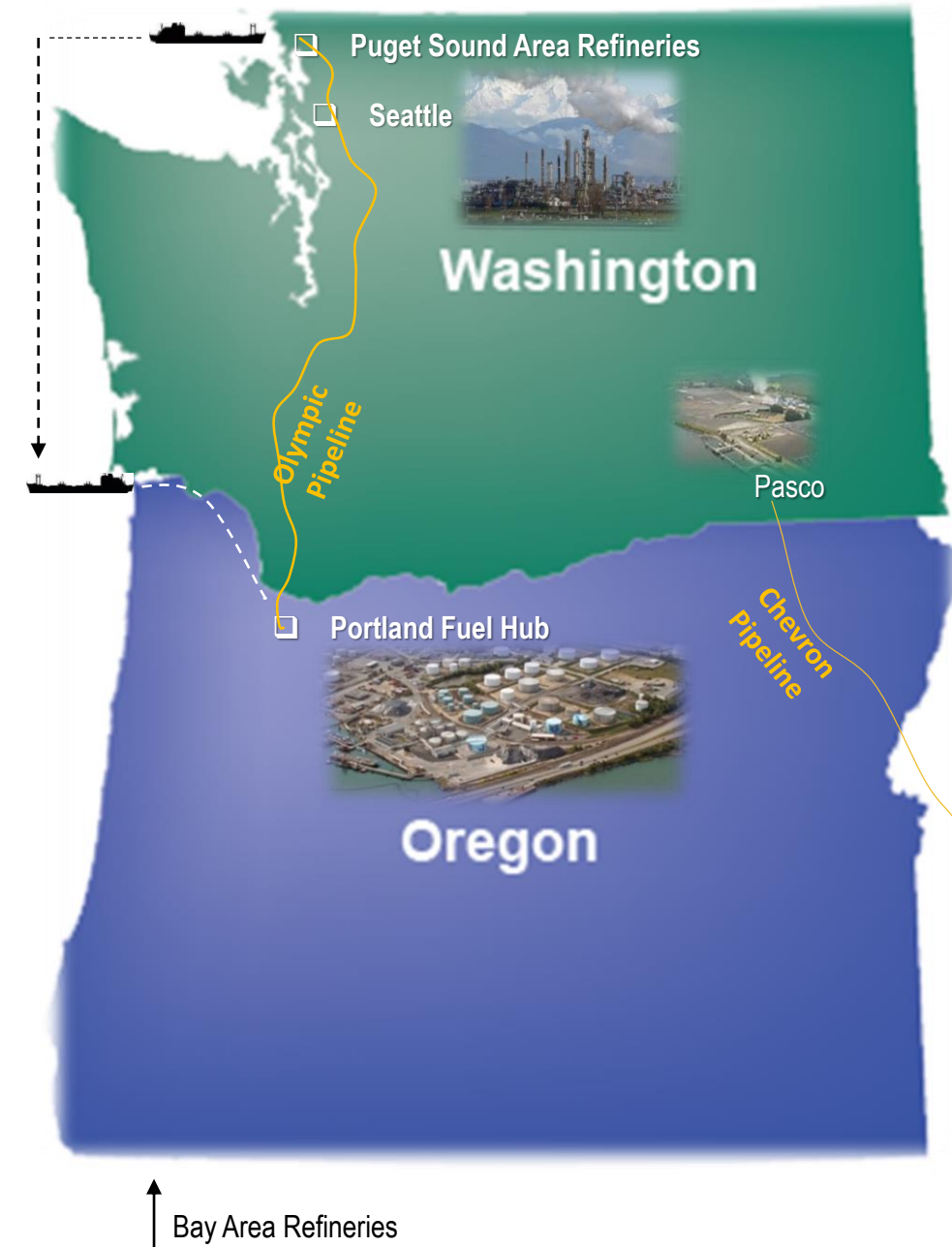
Oregon Department of Energy

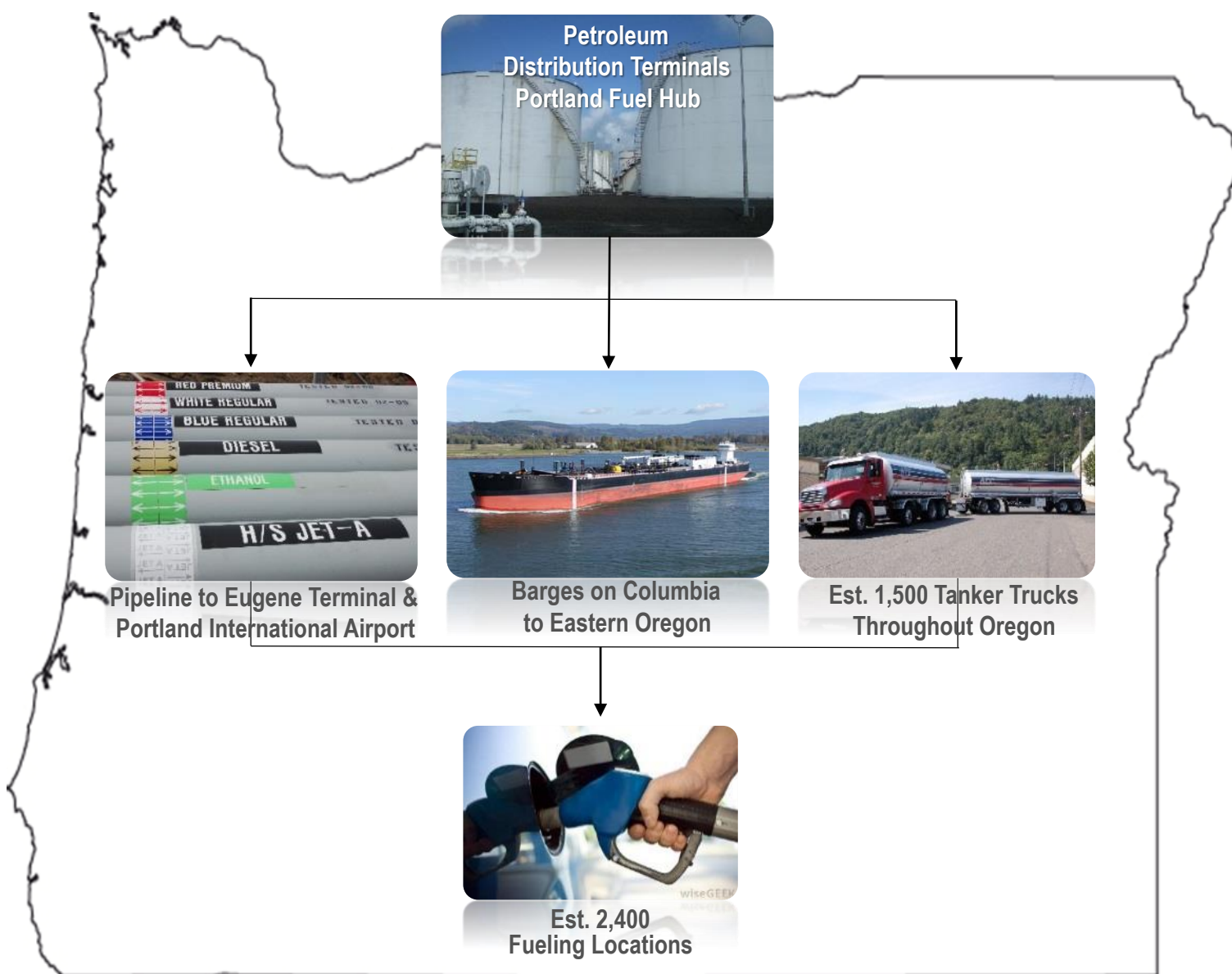
- Supports policies and programs that strengthen energy resilience
 - Published 2019 Guidebook for Local Energy Resilience for Small and Medium Electric Utilities
 - Published 2018 Biennial Energy Report. Identifies resilience threats & improvements to energy systems
 - Leads and trains interagency energy emergency response teams
 - Provides financial/technical assistance to resilience projects
 - Supports OSSPAC efforts to improve overall resilience in the Critical Energy Infrastructure (CEI) Hub
- Prepares for a Cascadia event that could happen tomorrow with all of the existing fuel infrastructure vulnerabilities

Oregon Imports 100 Percent of the State's Refined Petroleum Products

- Washington refineries supply more than 90 percent
 - About 75 percent by Olympic Pipeline to Oregon
 - Remaining product by tanker ships to Oregon
 - Portland Fuel Hub – located on liquefiable soils

Anticipate significant fuel supply loss post-Cascadia
- Utah refineries supply less than 5 percent to eastern Oregon communities
- California refineries supply less than 5 percent to southern Oregon communities





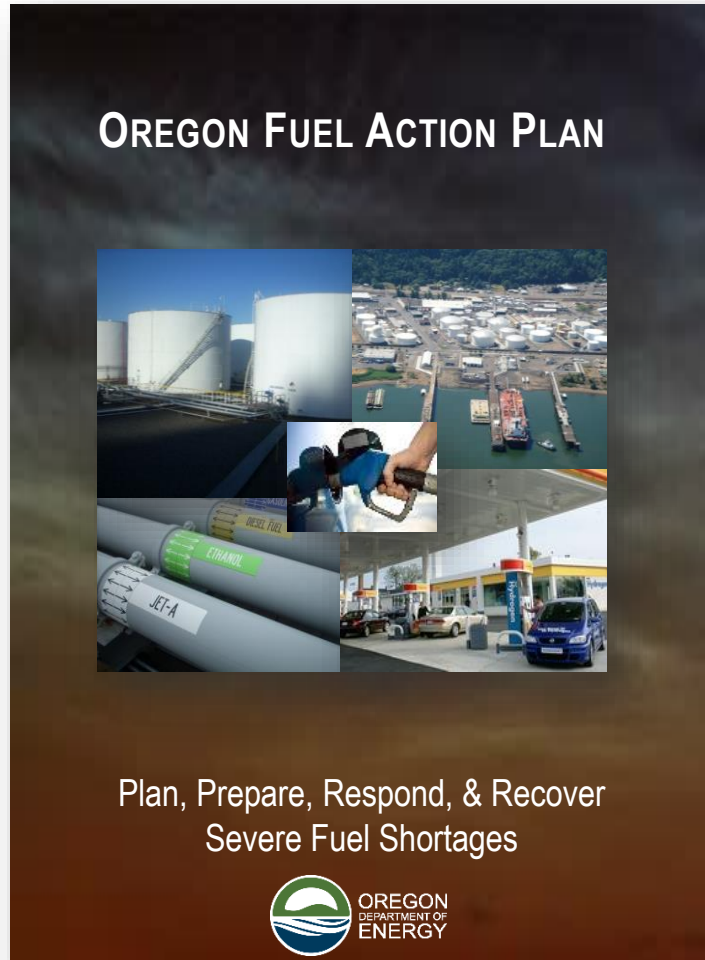
Oregon Fuel Supply & Distribution System

- Annual fuel imports estimated at three billion gallons
- Six-day fuel delivery cycle
- Product delivered throughout Oregon by pipeline, barges, and tanker trucks

Anticipate significant impacts to distribution system post-Cascadia

Oregon Fuel Action Plan Published: October 2017

Create new temporary fuel supply chains into Oregon and establish new delivery systems into affected areas



- Identifies ODOE authority and responsibilities to control and direct the state's overall response to petroleum emergencies
- Provides coordination structure for federal, state, county, tribal, and petroleum industry partners
- Provides structure for fuel allocation that identifies pre-approved priority users of fuel and user responsibilities
- Identifies state and county priority lifeline routes to support fuel deliveries
- Pre-designates Fuel Points of Distribution (FPOD) for receiving emergency fuel
- Plan on ODOE website - www.oregon.gov/energy

Oregon Fuel Action Plan: 9 Priority Actions



Action 1	Action 2	Action 3	Action 4	Action 5	Action 6	Action 7	Action 8	Actions 9
Notification Activation and Authorities	Public Information	Damage Assessment	Assess Fuel Needs & Determine Priorities	Outside Assistance: Fuel Supply	Fuel Conservation Measures	Temporary Waivers	Fuel Allocation	Recovery
- Initial Notifications - Activate ODOE AOC - Succession & Authorities	- ODOE Fuel Emergency Outlook Web Page - Public Information Campaign – social media - News conferences - Telephone Information Center	- Assess impacts to petroleum infrastructure - Estimate timeline for repairs - Provide fuel sector info & status updates	- Assess fuel availability in Oregon - Assess 18 state ESFs, counties, and tribal fuel needs - Determine state & regional fuel priorities - Governor's Disaster Cabinet	- Identify & obtain fuel source - Identify viable fuel delivery options into Oregon - Identify viable options for dispensing fuel	- Issue voluntary fuel conservation measures - Issue mandatory fuel conservation measures	- Obtain temporary environmental operational, and safety waivers as needed to ensure the timely delivery of fuel	- Review & approve/deny fuel requests <i>(ESF Primary State Agencies, counties & tribes)</i> - Allocate fuel to approved state agencies, counties & tribes - Odd/Even Fuel Allocation - Fuel Request Form Provided	- Allocate fuel to support recovery activities - State Recovery Coordinating Team - SRF 6 - Governor's Recovery Cabinet - Terminate fuel recovery activities as appropriate

Fuel Strategy: Air Response

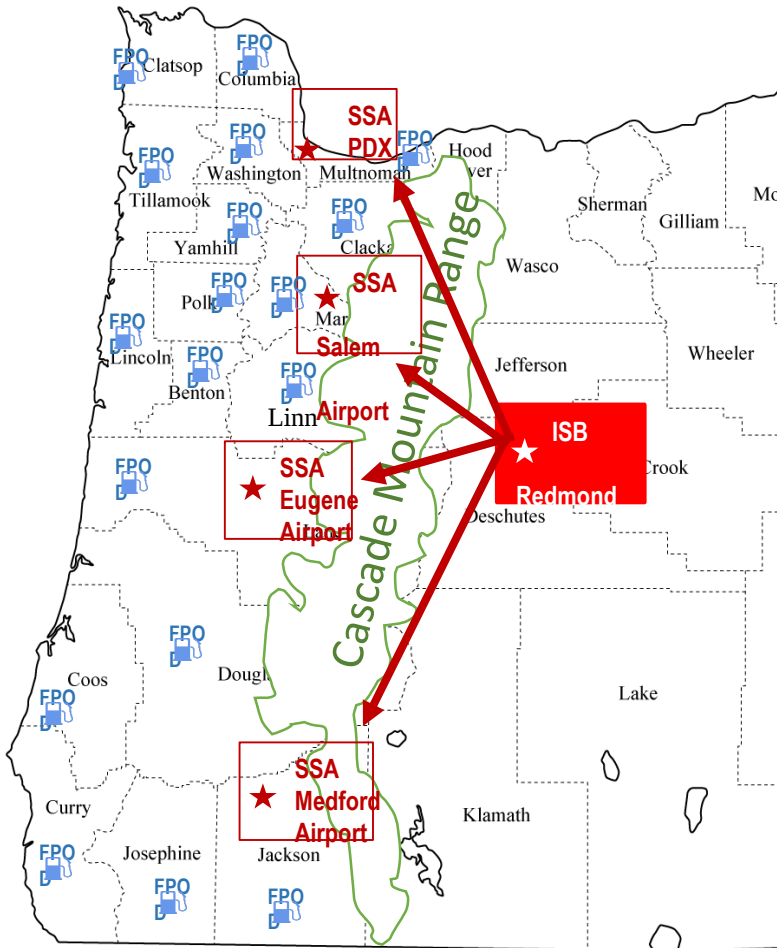
Initial AIR Response Activities

Required Support: Federal, Military, and Industry

Limitations: Necessary initially, difficult to sustain; hazardous; restricted to small quantities (3,000 gallon bladders)

Bulk Fuel Source: Outside Region

- 72 Hours: Bulk fuel “pushed” into the federal Incident Support Base (ISB) at Redmond Municipal Airport
- Initial daily bulk fuel push into Oregon, Washington, and Idaho (Defense Coordinating Element Region 10 projections)
 - Unleaded gasoline – est. 75,000 gallons
 - Diesel – est. 400,000 gallons
- ODOE directs fuel movement from federal ISB to State Staging Areas and to the pre-designated Fuel Points of Distribution (FPOD) in the affected counties



Fuel Strategy:
Ground
Response



***Resources listed
would support
Oregon,
Washington,
and California***



FEMA Fuel Contract

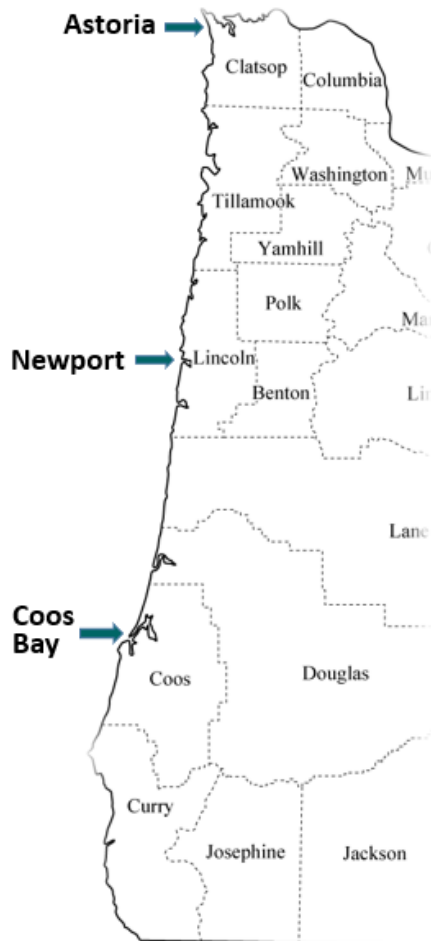
Required Support: Interagency Agreement with the Defense Logistics Agency (DLA); DLA contract with Foster Fuels to provide ground fuel (diesel and unleaded) deliveries in disasters

Limitations: requires viable roads and bridges

Bulk Fuel Source: Outside Region

- Foster Fuels can set up to 250 fuel sites within a 300-mile radius of a federal incident support base (will depend on access in CSZ event)
- Provide up to estimated 2,650,000 gallons of diesel by Day 10 (Clock starts upon receipt of FEMA fuel order and contract activation)
- 1,000 trucks maximum capacity by Day 10 for “no-notice event”
- ODOE identified gap in FEMA’s Fuel Contract (August 2018)
New FEMA Fuel Contract includes aviation fuel (June 2019)
 - Aviation fuel required to support Cascadia response

Fuel Strategy:
Over-the-
Shore
Response



U.S. Maritime Administration

Fuel Source: Outside Region

Maritime Assets – Deliver bulk fuel and operate portable fueling points along the Oregon Coast

- Ready Reserve Force ships out 7 – 10 days of notification
- Larger MARAD vessels ship out within 30 days of notification

Limited Resources to Support Catastrophic Event

- “Over the shore” bulk fuel operations – potentially one of the more viable and sustainable fuel strategies
- Requires partnering with private industry

Over-the-
Shore
Operations:

Post-Cascadia

Fact-Finding Trip: Barrow, Alaska

August 19-21, 2019

Goals:

- Assess private industry resources and capabilities to provide over-the-shore bulk fuel operations post-Cascadia
- Observe response time and logistics coordination requirements
- Identify need for public/private partnership to ensure timely fuel deliveries along the Oregon coast

State and Federal Participants:

- Oregon Department of Energy
- Oregon Department of Administrative Services
- Oregon National Guard
- Federal Emergency Management Agency
- U.S. Army North, Defense Coordinating Element

Barge refuel at tanker (1-3 miles offshore)



Barge leaving tanker for beach



Barge arrives on beach



Over-the-
Shore
Operations:

Barrow, AK

Private Industry Fuel Operations

Crowley Maritime Corporation

Delivers fuel to more than 300 remote locations in Alaska and responds to fuel emergencies worldwide

Resources and Capabilities

- Speed: Response time can be hours upon notification
- Scalability: Fuel assets and resources can be adjusted as mission requirements change
- Specialized Equipment: Designed to support fuel delivery to remote locations and in harsh conditions
 - Custom built, double hull, shallow draft vessels
 - Beaching barges with role on/role off ability
 - Offshore lightering capabilities
 - 7,000 feet of collapsible fuel hose

Run flexible fuel hose to shoreside tank farm



Barge to barge fuel transfer allows 24 hour fuel delivery



6 million gallons of fuel delivered in 5 days



Oregon Fuel Action Plan



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