


## Regulatory Compliance: Emission Reduction Forecasts


Delphine Prévost, Port of Oakland  
Till Stoeckenius, Environ



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## Regulatory Review

- State and Federal agencies enact state-wide and nation-wide regulations, but implementation is local
- Regulatory program is broad and aggressive
  - Achieving its intended benefits will be technologically, legally, and financially challenging
  - Significant investments required by many parties
  - BUT, the benefits are potentially significant




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## Seaport Growth Scenarios: 2020

- Low scenario – 4 million TEUs
  - No major capital improvement projects by 2020
  - Growth gradually slows as capacity limits of current facilities are reached
- Medium scenario – 5 million TEUs
  - Certain capital improvement projects are built
  - Rail is key component of growth
- High scenario – 6 million TEUs
  - More aggressive version of medium scenario

Port seeks to grow while improving environmental performance




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## Emissions Now – Risk Yet to Come

- The forecasts are currently for emission reductions
- Emission reductions will be translated to risk reduction when HRA is released
  - In the interim, no local relationship exists
  - CARB uses 1:1 relationship state-wide
  - We know that proximity matters




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## Emission Reduction Forecasts

Port has evaluated emission reductions from regulatory program applied locally at Port of Oakland from 2005 levels

<b>Existing Regulations</b> <ul style="list-style-type: none"><li>• ARB cargo handling equipment</li><li>• ARB MOU for locomotive idling</li><li>• ARB/EPA engine standards for trucks</li><li>• EPA standards for new off-road engines</li><li>• EPA Tier 3&amp;4 engine rules (locomotives and harbor craft) *</li></ul> <p>* not yet signed into law but very likely to take effect as currently written</p>	<b>Likely Pending Regulations</b> <ul style="list-style-type: none"><li>• ARB port truck</li><li>• ARB on-road in-use truck</li><li>• ARB shore-side power</li><li>• ARB harbor craft</li><li>• ARB OGV (ship) main engine low sulfur fuel</li><li>• ARB OGV (ship) auxiliary engine low sulfur fuel *</li></ul> <p>* Existing rule not in effect per court order but on-going voluntary compliance likely</p>
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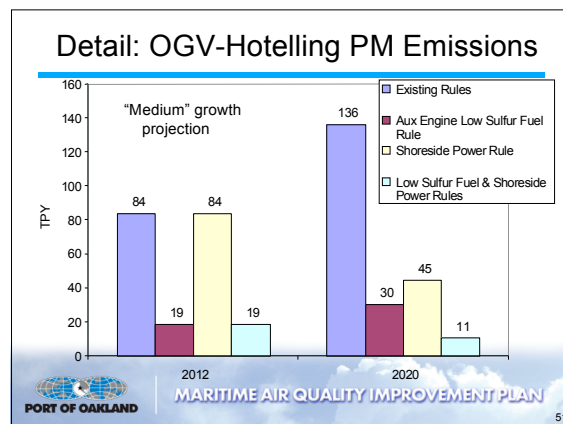
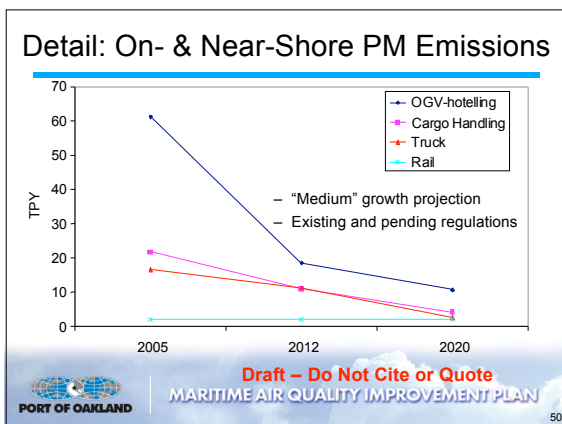
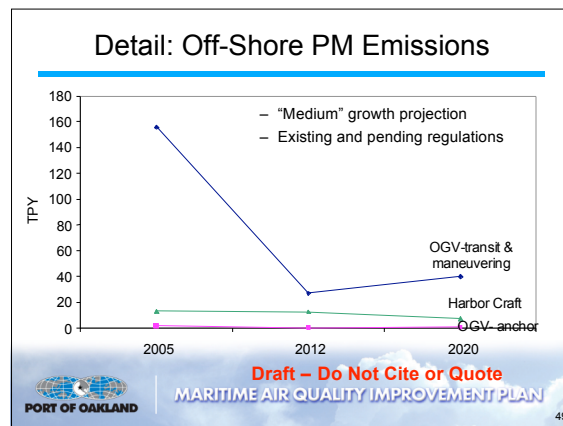
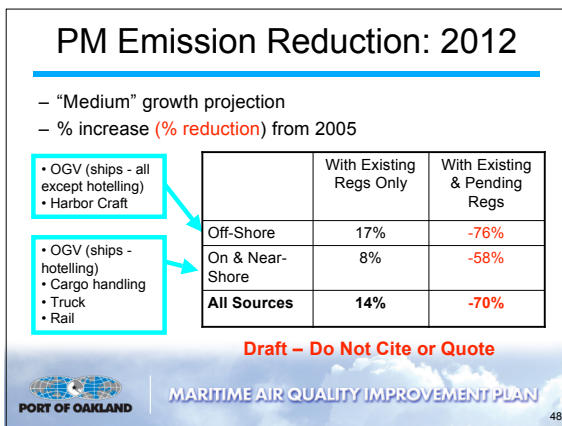
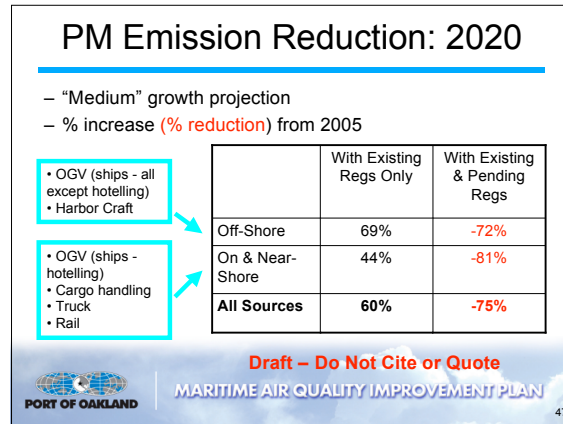
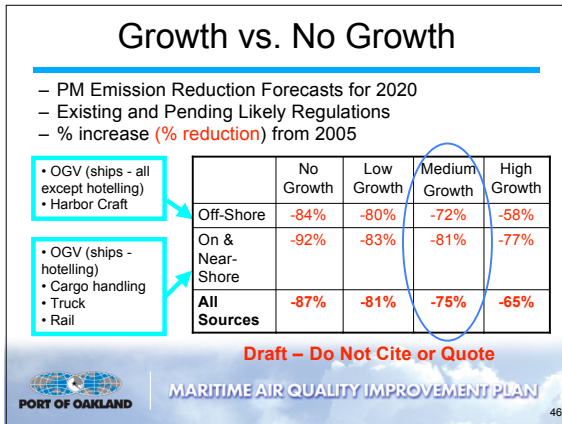
## Planning Horizons

- 2020
  - Most regulations currently in place or under consideration have will have been implemented
  - Matches ARB Goods Movement planning horizon
- 2012
  - Intermediate 5-year planning horizon
  - Many important regulations at least partially implemented
- Note: forecasts are for 2012 and 2020 only – no data available for years in between



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### Other Pollutant Reductions: 2020

- "Medium" growth projection
- % increase (% reduction) from 2005

		ROG	CO	NOx	SO2	PM
2012	Existing Regs Only	5%	27%	9%	23%	14%
	Existing & Likely Regs	-3%	21%	-3%	-92%	-70%
2020	Existing Regs Only	+41%	+89%	+47%	89%	+60%
	Existing & Likely Regs	+19%	+74%	+4%	-90%	-75%



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