



## Vessel Speed Reduction Initiative Fact Sheet

### GOAL

Advance California's clean-transportation goals and sustainable freight strategy by implementing a voluntary vessel speed reduction incentive program to cut greenhouse gas (GHG) emissions and other air pollutants, with the ancillary benefit of potentially protecting endangered whale species along the California coast.

### APPROACH

The initiative would use California Cap-and-Trade auction funds to expand the existing vessel speed reduction incentive programs at the Ports of Los Angeles and Long Beach. The Ports of Los Angeles and Long Beach speed reduction incentive programs have been successfully implemented with participation rates over 90%, and have achieved significant air pollutant reductions by limiting vessel speeds to 12 knots or less.

Participation in an expanded program using Cap-and-Trade funds would be contingent on participation in the existing Ports programs, so the initiative would support the Ports' current clean-air goals while extending the benefits through the Santa Barbara Channel and possibly along the California coast.



Photo courtesy of John Calambokidis, Cascadia Research Collective

### PHASE ONE: DEVELOPMENT AND PILOT (1-2 years)

Working with the Ports, stakeholders, and shipping companies the Santa Barbara County Air Pollution Control District (SBCAPCD) will take the lead, determining incentive structure, costs, emission reductions, and emissions verification systems, and implement a pilot program from the slow speed zone boundary at the Los Angeles ports through the Santa Barbara Channel.

### PHASE TWO: PROGRAM ROLL-OUT (2<sup>nd</sup>-3<sup>rd</sup> year out)

Program roll-out to larger portion of California coast, or entire coast.

### BENEFITS

This is a prime and unique opportunity to fulfill multiple objectives of AB 32 (Global Warming Solutions Act of 2006) and AB 1532 (Greenhouse Gas Reduction Fund). Through a single policy mechanism, the project can cut shipping emissions of greenhouse gases, nitrogen oxides, and other air pollutants by up to 50 percent. The initiative supports the existing Port programs and helps ensure ships reduce speeds even during favorable economic conditions when it has been shown that they increase speeds. The

initiative would complement clean-air efforts, and is in line with clean-transportation and sustainable-freight strategies. In addition, reduced ship speeds could reduce the severity of injury to whales should a ship-whale collision occur.

## MEASURABLE BENEFITS

- **Reduces GHG Air Pollution:** Reducing vessel speed to 12 knots will reduce shipping GHG emissions by 50%.
  - In California up to 2,580,000 tonnes/year<sup>1</sup>
  - In the Santa Barbara Channel up to 369,762 tonnes/year<sup>1</sup>
- **Reduces Nitrogen Oxides Air Pollution (NOx is a precursor to ozone):** Reducing vessel speeds to 12 knots will reduce NOx by 56%.
  - In California up to 43,108 tons/year<sup>1</sup>
  - In the Santa Barbara Channel up to 6,760 tons/year<sup>1</sup>
- **Improving Air Quality for Human Health:** Additional particulate matter reductions beyond CARB marine vessel fuel regulation<sup>2</sup>
- **Improving Whale Protection:** Ships traveling 12 knots or less could help reduce the chance of a lethal ship strike of a whale.<sup>3</sup>



Photo courtesy of NOAA

## COORDINATED SOLUTION STRATEGY

The SBCAPCD proposes this unique program that finds common ground and pursues diverse partnership. The District and its Board, which is made up the five Santa Barbara County Supervisors and representatives from each incorporated city in the County, have been pursuing reducing emissions from cargo ships since 1994.

This proposal also has the support and backing of a number of stakeholders, including members of a *Marine Shipping Solutions Group* that has been meeting regularly. This group includes federal agencies (National Oceanic and Atmospheric Administration's (NOAA) National Marine Fisheries Service (NMFS), Channel Islands National Marine Sanctuary (CINMS), U.S. Coast Guard, and CINMS Advisory Council), NGO groups (Environmental Defense Center (EDC), Ocean Conservancy (OC), and Community Environmental Council (CEC), leading scientists (John Calambokidis, Cascadia Research Collective, Inc.), and local elected leaders.

## CONCLUSION

This innovative program expands a successful program already in place and offers a unique opportunity to reduce GHG and other air pollution emissions. It also protects human health and marine wildlife, complies with the requirements of AB 32 and AB 1532, and can achieve shared goals across a broad range of stakeholders.

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<sup>1</sup> Santa Barbara County Air Pollution Control District calculations.

<sup>2</sup> Yusuf Khan et al. 2012. Greenhouse Gas and Criteria Emission Benefits through Reduction of Vessel Speed at Sea. *Environmental Science & Technology*. 46 (22) pp 12600-12607.

<sup>3</sup> Vanderlaan, A.S.M. and Taggart, C.T. 2007. Vessel Collisions with Whales: The probability of lethal injury based on vessel speed. *Marine Mammal Science* 23(1): 144-156.

## Vessel Speed Reduction (VSR) Initiative Compatibility with AB 1532

The VSR initiative builds on and expands the existing Ports of Long Beach and Los Angeles vessel speed reduction incentive programs. It fulfills funding requirements for investing in “low-carbon transportation” as outlined in newly-enacted statutory requirements<sup>4</sup> directing how AB 32 Cap-and-Trade auction funds are allocated while furthering the California Air Resources Board’s Sustainable Freight Strategy.<sup>5</sup> In addition to reducing GHG emissions, the proposal fulfills funding goals required by legislation including: (1) maximizing economic, environmental, and public health benefits; (2) complementing efforts to improve air quality, (3) providing opportunities for businesses, public agencies, nonprofits, and others to participate in efforts to reduce GHG emissions, and (4) lessening impacts and effects of climate change. The following table outlines how the VSR initiative meets specific legal requirements outlined in AB 1532.

AB 1532	Vessel Speed Reduction Initiative
<p>(b) Moneys shall be used to facilitate the achievement of reductions of greenhouse gas emissions in this state consistent with this division and, where applicable and to the extent feasible:</p> <p>(1) Maximize economic, environmental, and public health benefits to the state.</p>	<p>GHG reductions up to 50% from shipping</p> <p><u>Economic</u>: supports ports by avoiding regulatory approach that could discourage ships from CA port calls; enhances ability of coastal areas to meet air standards</p> <p><u>Environmental</u>: whale and other species protection</p> <p><u>Public health</u>: reductions in criteria pollutants, particulate and air toxics</p>
<p>(3) Complement efforts to improve air quality.</p>	<p>Reductions in criteria pollutants, particulate and air toxics.</p>
<p>(5) Provide opportunities for businesses, public agencies, nonprofits, and other community institutions to participate in and benefit from statewide efforts to reduce greenhouse gas emissions.</p>	<p>Public agencies: SBCAPCD, NOAA, potentially other air districts, County and City of Santa Barbara</p> <p>Nonprofits: stakeholder organizations (EDC, CEC,OC)</p> <p>Other community (CINMS Advisory Council)</p> <p>Shipping Representatives: Marine Exchange, PMSA</p> <p>Ports: Ports of Long Beach and Los Angeles</p>
<p>(6) Lessen the impacts and effects of climate change on the state’s communities, economy, and environment.</p>	<p>Reducing GHG emissions</p>

<sup>4</sup> AB 1532, SB 535, and SB 1018

<sup>5</sup> California Environmental Protection Agency - Air Resources Board, January 2013. Annual Report to the Joint Legislative Budget Committee on Assembly Bill 32 (Chapter 488, Statutes of 2006) The California Global Warming Solutions Act of 2006. This report can be viewed at: <http://www.arb.ca.gov/mandrpts/mandrpts.htm>.

<p>(c) Moneys appropriated from the fund may be allocated, consistent with subdivision (a), for the purpose of reducing greenhouse gas emissions in this state through investments that may include, but are not limited to, any of the following:  (2) Funding to reduce greenhouse gas emissions through the development of state-of-the-art systems to move goods and freight...</p>	<p>Improving efficiencies of moving goods and freight and consistent with ARB's Sustainable Freight Strategy</p>
<p>(6) Funding to reduce greenhouse gas emissions through investments in programs implemented by local and regional agencies, local and regional collaboratives, and nonprofit organizations coordinating with local governments...</p>	<p>Regional collaborative; partnership with nonprofits and government</p>
<p>(7) Funding in research, development, and deployment of innovative technologies, measures, and practices related to programs and projects funded pursuant to this part.</p>	<p>Research and development of innovative measures and practices to reduce ship speeds.</p>
<p>The investment plan, consistent with the requirements of Section 39712, shall do all of the following:  (1) Identify the state's short-term and long-term greenhouse gas emissions reduction goals and targets by sector.  (2) Analyze gaps, where applicable, in current state strategies to meeting the state's greenhouse gas emissions reduction goals by sector.</p>	<p>CARB identified that it would assess a ship speed reduction rule as part of GHG measures in AB 32 scoping plan:  <a href="http://www.arb.ca.gov/ports/marinevess/vsr/vsr.htm">http://www.arb.ca.gov/ports/marinevess/vsr/vsr.htm</a>  This assessment has yet to be completed, and regulatory measure uncertain, so this approach could fill gap.</p>