

SPS-11: Energy and Fuels

For States

1-15 points

Goal: Reduce the energy and fossil fuel consumption from the transportation sector and document it in the transportation planning process.

Sustainability Linkage

Reducing energy and fossil fuel consumption from the transportation sector provides multiple sustainability benefits and supports all of the triple bottom line principles by reducing fuel spending, greenhouse gas emissions, and energy dependence.



Background and Scoring Requirements

Background

It is important to clarify that **this criterion is specific to planning for the transportation system that an agency manages**. The Operations & Maintenance (OM) criteria include various approaches that an agency could leverage to affect the reduction of energy and fossil fuel consumption related to its internal staff and the maintenance and operations of its facilities and fleet.

There are many ways an agency can reduce the energy and fossil fuel consumption in the transportation system within its jurisdiction. Types of strategies include improving the fuel efficiency of vehicles (for autos, transit, trucks, etc.), as well as encouraging the switch to alternative fuels. Examples of the types of strategies that are implementable by states and/or MPOs include, but are not limited to:

- Providing incentives for the purchase and/or use of high fuel efficiency or alternatively fueled vehicles (e.g., through construction specifications, incentives for vehicle sharing, incentives for switches to high fuel efficiency vehicles, etc.)
- Implementing public eco-driving and anti-idling campaigns. Eco-driving is a technique that refers to the behaviors and practices that individual drivers can use to improve the fuel economy of their vehicles. Research has shown that ample opportunity exists to reduce fuel consumption by increasing eco-driving practices (Source: [Moving Cooler: An Analysis of Transportation Strategies for Reducing Greenhouse Gas Emissions¹](#)). Examples of eco-driving techniques include: avoiding rapid acceleration and braking, not exceeding 55 mph, and avoiding idling (including vehicle “warm-ups”), among others.
- Providing alternative fueling infrastructure (e.g., electric vehicle charging corridors, Truck-Stop Electrification (TSE) programs, preferential parking for electric vehicles at park & ride lots, etc.)

Additional strategies include shifting travel to less energy-intensive modes, reducing travel demand, and optimizing travel speeds for fuel-efficiency. Examples of these types of strategies are described in more detail in SPS-07: Multimodal Transportation and Public Health, SPS-09: Travel Demand Management, and OM-13: Transportation Management and Operations, respectively. Additionally, while this criterion is primarily focused on reducing on-road energy and fossil-fuel consumption, the use of renewable energy for system-wide operations (solar variable message signs, solar highways, etc.) also reduces transportation energy use.

Scoring Requirements

Requirement SPS-11.1

1-2 points. Set Goals and Objectives

Scoring is based on the following, cumulative requirements. The first requirement must be accomplished to earn the second.

- **Requirement SPS-11.1a**

1 point. Develop Energy and Fossil Fuel Reduction Goals and Objectives

The agency has developed quantitative energy and/or fossil fuel reduction goals and objectives for the transportation system.

- **Requirement SPS-11.1b**

1 additional point. Goals and Objectives Consistent with other State Goals and Objectives

The goals and objectives are consistent with other relevant state goals and objectives for reducing energy and fossil fuel consumption (e.g. climate strategy).

Requirement SPS-11.2

2 or 4 points. System-Level Data Collection and Forecasting

Scoring is based on the following, cumulative requirements. The first requirement must be accomplished to earn the second.

- **Requirement SPS-11.2a**

2 points. Develop and Maintain Baseline Inventory of Energy and Fossil Fuel Consumption

Cooperate with partner agencies to develop and maintain a baseline inventory of current energy and/or fossil-fuel consumption (for all fuel types and modes) from transportation.

- **Requirement SPS-11.2b**

2 additional points. Forecast Energy and Fuel Consumption

Cooperate with partner agencies (e.g. state department of energy) that use an appropriate model or method to forecast energy and fuel consumption (based upon on-road VMT) associated with its LRTP, including business-as-usual and alternative scenarios (as appropriate), or conduct such forecasting. Use this information to inform transportation decision-making and the development of the statewide LRTP and corridor plans. Resources related to conducting transportation energy data, inventories, and forecasts can be found on the USDOT's [Transportation and Climate Change website](#)².

Requirement SPS-11.3

2 or 4 points. Develop a Plan and Implement Strategies to Reduce Transportation-related Energy and/or Fossil Fuel Usage

Scoring is based on the following, cumulative requirements:

- **Requirement SPS-11.3a**

2 points. Include Energy and Fossil Fuel Reduction Strategies in Plan

Coordinate with partner agencies and integrate energy and fossil fuel reduction strategies in the LRTP, corridor plans, and scenario planning, as appropriate. Transportation planning documents include a discussion of the impacts of including these strategies.

- **Requirement SPS-11.3b**

2 points. Implement Strategies to Reduce Energy and Fossil Fuel Consumption

Coordinate with partner agencies and integrate transportation strategies to reduce transportation-related energy and fossil fuel consumption and related emissions (such as those described in the Background section above). These may include strategies implemented primarily to reduce energy use, as well as strategies implemented primarily for other purposes (e.g., congestion relief, air quality, motorized travel demand reduction, etc.)

Requirement SPS-11.4

1-5 points. Develop Performance Measures, Monitor Progress, and Demonstrate Sustainable Outcomes

Scoring is based on the following, cumulative requirements:

- **Requirement SPS-11.4a**

2 points. Incorporate Energy and Fossil Fuel Performance Measures

The agency has incorporated energy and fossil fuel reduction performance measures into the transportation planning process. Examples of performance measures include fuel expenditure reductions, gallons of fuel consumed, and greenhouse gases reduced, among others. Additional examples of performance measures can be found in NCHRP's *Report 708: A Guidebook for Sustainability Performance Measurement for Transportation Agencies*³.

- **Requirement SPS-11.4b**

3 points. Monitor Progress and Demonstrate Sustainable Outcomes

Monitor progress towards goals for at least one year after goal establishment using the performance measures established in SPS-11.4a and show measurable advancement towards stated goals.

Resources

Above-Referenced Resources

The following resources are referenced in this criterion and consolidated here:

1. Urban Land Institute (ULI), *Moving Cooler: An Analysis of Transportation Strategies for Reducing Greenhouse Gas Emissions* (July 2009), <https://www.transit.dot.gov/about/moving-cooler-analysis-transportation-strategives-reducing-greenhouse-gas-emissions> and <https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/MovingCoolerExecSummaryULI.pdf>
2. USDOT, Transportation and Climate Change website, <https://www.transportation.gov/climate-change-clearinghouse>
3. NCHRP, *Report 708: A Guidebook for Sustainability Performance Measurement for Transportation Agencies*, http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_708.pdf

Additional Resources

The following resources provide information on this criterion topic in addition to the sources directly referenced:

4. AASHTO Center for Environmental Excellence: Energy/Greenhouse Gas Emissions, https://environment.transportation.org/environmental_topics/energy_greenhouse/
5. TRB, *Special Report 307: Policy Options for Reducing Energy Use and Greenhouse Gas Emissions from U.S. Transportation* (2011), <http://www.trb.org/Publications/Blurbs/165535.aspx>
6. FHWA, *Transportation's Role in Reducing U.S. Greenhouse Gas Emissions Volume 1 and Volume 2* (April 2010), <https://rosap.ntl.bts.gov/view/dot/17789>

7. FHWA, *Integrating Climate Change into the Transportation Planning Process* (July 2008), https://www.fhwa.dot.gov/environment/sustainability/energy/publications/integrating_climate_change/index.cfm
8. Union of Concerned Scientists, *State of Charge: Electric Vehicles' Global Warming Emissions and Fuel Cost Savings Across the United States* (2012), http://www.ucsusa.org/clean_vehicles/smart-transportation-solutions/advanced-vehicle-technologies/electric-cars/emissions-and-charging-costs-electric-cars.html
9. UC Davis, *Potential Design, Implementation, and Benefits of a Feebate Program for New Passenger Vehicles in California: Interim Statement of Research Findings* (2010), <https://gsm.ucdavis.edu/research/potential-design-implementation-and-benefits-feebate-program-new-passenger-vehicles> and https://gsm.ucdavis.edu/sites/main/files/file-attachments/2010_ucd-its-rr-10-13.pdf
10. US Environmental Protection Agency, *Study of Exhaust Emissions from Idling Heavy-Duty Diesel Trucks and Commercially Available Idle Reducing Devices* (October 2002), <http://www.epa.gov/smartway/documents/publications/epaidlingtesting.pdf>
11. US Department of Energy, *Idle Reduction Technology Demonstrations* (November 2004), <http://www.nrel.gov/vehiclesandfuels/fleetttest/pdfs/36717.pdf>

Scoring Sources

The project is considered to have met this criterion if the requirements above can be reasonably substantiated through the existence of one or more of the following types of documentation (or equal where not available):

1. A published document, website, brochure, and/or administrative report (or equivalent) that provides evidence of the agency's energy goals and objectives.
2. Transportation-related energy and fossil fuel inventories, forecasts, and/or methodology reports that quantify energy and fossil fuel consumption.
3. Plan contents (in STIP, LRTP, and/or corridor planning) that include strategies/programs addressing energy and fossil fuel use.
4. Documentation of the implementation of the strategies described in the Background/Introduction section of this criterion.
5. An annual or periodically updated report of progress, which includes the results from ongoing monitoring over time.