

Metro Board Approved Policy

Renewable Energy Policy

Adopted: September 22, 2011

Historical Perspective

Sustainability and energy efficiency is a central LACMTA focus and commitment, cutting across virtually all aspects of the agency's mission, vision, values, and core business goals. We annually spend on average approximately \$26 million for electricity. About \$7 million of this total amount is for operation of bus and rail maintenance facilities, layovers, terminals, and headquarter buildings. The remaining are for propulsion power.

As the years progress, we have seen electricity costs rise due to periodic utility rate adjustments. We believe that in the volatile and costly energy market, embracing sustainability, energy efficiency, conservation, and implementation of renewable energy sources is a primary pathway towards gaining control of, and reducing our energy usage and costs and gaining energy independence.

LACMTA has already deployed and is using over two megawatts of electricity from renewable energy sources (i.e., photovoltaic sources exclusively) at three of our Bus Divisions and the Metro Support Services Center. One megawatt of power can power approximately 800 to 1,000 homes. This current portfolio represents approximately 2% of the energy needs of our agency.

A motion was passed by our Board of Directors in February 2011 calling for the establishment of a "Metro Renewable Energy Policy". The motion recognized that under Measure R and the 30/10 plan, the projected expansion of the Metro system, including approximately 70 miles of light and heavy rail lines, will have substantial effect upon the projected cost of energy required in order to operate the Metro system.

The motion called for a review of the following elements:

- Assessment of technical feasibility for off-track, and on-track renewable power, including canopies, substations, parking lots and park 'n rides, landscaped areas, utility poles, tunnels,

garages, maintenance buildings, etc., as well as creative renewable energy solutions.

- Life-cycle financial considerations including cost (i.e., initial capital as well as maintenance and replacement costs and life-cycle cost analysis).
- Use of creative financing mechanisms (such as Feed-in-Tariff, Power Purchase Agreements, ground leases, Public/Private Partnerships and State and Federal grants).
- Inclusion of life-cycle cost analyses for renewable energy use in awarding construction contracts for new lines.
- Existing industry and government guidelines for evaluating renewable energy and energy efficiency in new transit projects and discussion of their potential application to Metro projects.
- Retrofitting existing light rail, subway and bus rapid transit corridors for solar and other renewable power systems.
- Opportunities to partner with local power utilities.

The motion also called for a proposed plan of action and identification of specific opportunities for incorporating renewable energy (solar and other renewable power systems) and energy efficiency measures into existing and new transit projects. The motion requires that the Renewable Policy and plan should include the installation of a demonstration renewable energy system (preferably but not limited to solar panels) on at least one existing station as a demonstration project.

An amendment to the motion further indicated that the review and study of a proposed agency Policy, plan of action, and identification of specific opportunities be initially assigned to the Ad Hoc Sustainability Committee in order to put a greater focus on the issues during the development period. Once the policy has been developed with a Plan of Action and opportunities identified, the Renewable Energy Policy and project opportunities would return to the Operations Committee for the pursuit of implementation.



Metro

LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY RENEWABLE ENERGY POLICY

POLICY STATEMENT

The Los Angeles County Metropolitan Transportation Authority (LACMTA) will develop and implement renewable energy technology applications, where feasible and practicable, to reduce non-renewable energy use in all LACMTA capital assets or projects.

PURPOSE

This policy provides guidance in 1) identifying criteria that can be applied to the feasibility, selection and application of a renewable energy technologies; 2) applicability of the Renewable Energy Policy; and 3) collaborative opportunities for funding the implementation of feasible and practicable renewable energy-related projects on or any LACMTA capital asset or project.

COMMITMENT

This Renewable Energy Policy complements the implementation of the LACMTA Environmental Policy and Sustainability and Energy Policy to identify cost-effective solutions to reducing non-renewable energy usage and increasing costs; and to ensure that our current and future energy-related activities would have minimal human health, environmental, and climate change impacts.

The LACMTA also commits to a renewable energy use stretch goal of 13% above its current baseline of 20% by the year 2020. This goal will be measured as the percentage of energy use from any renewable source (including those from the utilities' sources) compared to the amount of total energy used by LACMTA. This goal will be revisited every five years and will be adjusted accordingly to ensure the continued implementation of Measure R projects. Measure R funds will not be used to achieve this goal nor to implement the intent of this policy.

RENEWABLE ENERGY SELECTION CRITERIA

The LACMTA will consider the feasibility, selection, and implementation of applicable, feasible, and practicable renewable energy technologies at any of our capital assets and projects by comparing renewable energy technologies to one another considering the following criteria:

- 1) **Cost:** Potential renewable energy applications shall be analyzed for cost competitiveness based upon the cost of constructing the project(s) or retrofitting existing facilities or equipment; their on-going short-term and long-

term operation and maintenance; and their overall life-cycle expenses costs relative to the baseline cost of non-renewable energy to achieve the same functional objective. In existing facilities, energy efficiency retrofits and retro-commissioning shall be compared together with renewable energy technology applications for combined life-cycle cost-effectiveness.

- 2) **Environmental Benefit:** Renewable energy alternatives or low emissions high-efficiency energy applications, shall be analyzed for environmental benefits relative to the baseline utility electricity (or natural gas, for some solar water heat systems) based on greenhouse gas emissions that would be avoided, and as appropriate, environmental and public health and safety benefits.
- 3) **Land Use Efficiency:** Renewable energy applications shall reflect efficient land use in terms of the area a renewable energy project or system occupies for each unit of power it can generate.
- 4) **Peak Shaving Benefit:** The ability for renewable energy alternatives to offset peak non-renewable energy consumption shall be quantified.
- 5) **Hedging Benefit:** Renewable energy alternatives shall have their ability to contribute to or enhance price and supply certainty to LACMTA quantified relative to baseline energy use.
- 6) **Local Content Use:** Renewable energy applications shall utilize, where cost-effective and appropriate, equipment manufactured within Southern California.

APPLICABILITY

Once the field of possible renewable energy projects have been evaluated and compared to one other and applicable, feasible, and practicable renewable energy technologies are selected, they will be applied to capital assets and projects as follows:

New Facilities and Transit Corridors and Projects: Selected renewable energy technologies shall be considered in all new projects from the early development, design and procurement stages, where practicable and feasible. Where applicable, feasible, and practicable, the selected project level renewable energy technology shall be combined with energy efficiency technologies.

Existing Facilities and Capital Assets: Energy efficiency retrofits and retro-commissioning shall precede renewable energy technology applications. Renewable energy technology considerations will only commence after energy use is optimized. The LACMTA recognizes that renewable energy applications may precede energy efficiency retrofits if upfront cost and life-cycle benefits of renewable energy applications significantly outweigh those of energy efficiency retrofits.

In both cases, selected renewable energy technologies shall be compared with baseline energy supply for life-cycle benefits and costs to determine whether to proceed with the renewable energy technology for the project.

FUNDING AND COOPERATIVE OPPORTUNITIES

LACMTA shall work cooperatively with Federal, State, and local jurisdictions, Energy Services Corporations, utility companies, and other third parties to explore, develop, and engage in the innovative financing strategies to increase renewable energy investment and usage, spread cost over the life-cycle, and reflect the multiple benefits of renewable energy and energy efficiency in all LACMTA capital assets and projects. Deployment of any renewable energy technology at any capital asset or project shall be to the maximum benefit of the LACMTA.

QUANTIFICATION AND REPORTING OF RENEWABLE ENERGY USAGE AND BENEFITS

No later than 18 months after policy adoption and annually thereafter, LACMTA shall incorporate in the annual Sustainability Report the information generated from the implementation and operation of this Renewable Energy Policy including:

- 1) A description of the renewable energy projects planned or deployed;
- 2) Quantification of the resulting greenhouse gas emissions, cost savings, and revenue generated (if any) resulting from the use of renewable energy technologies and energy retrofits (in the case of existing buildings, facilities and equipment);
- 3) A description of other appropriate measures of progress;
- 4) A description of implementation challenges; and
- 5) Recommendations for any policy changes.