

Sustainability Objectives of the NGO's

**Joint Forum on Bioenergy Sustainability
and Lifecycle Analysis**

Sustainability Defined

A process or state that can be maintained at a certain level indefinitely. *Wikipedia*

Meeting the needs of the present without compromising the ability of future generations to meet their needs. *Brundtland Commission.*

One Definition of Sustainable Transportation - A system in which public policies, business decisions, and consumer actions result in the movement of people and goods in a manner that, on a lifecycle basis, minimizes the generation of pollution, including greenhouse gases; reduces competition for, and use of, natural resources and energy; reduces waste generation; preserves habitat and ecosystems; maintains or improves soils; avoids use of genetically modified organisms, nanoparticles, or synthetic biology unless proven safe; provides transportation services equitably; and results in jobs and fair labor conditions.

Sustainability Metrics

- Lifecycle greenhouse gas (including direct and indirect land use), H₂O use, nitrogen, etc.
- Preserving biodiversity
- Protecting sensitive lands and habitat
- Maintaining and improving Air Quality
- Maintaining and improving Water Quality
- Preservation of surface & ground waters
- Prevention of soil erosion and nutrient depletion; soil health
- Waste reduction
- Reduction in use of agrochemicals (including fertilizers)
- Preventing or regulating use of GMO's, nanoparticles, and synthetic biology
- Preventing Competition with food or amongst other resources
- Welfare
 - Labor conditions
 - Human rights
 - Property and use rights; land conflicts
 - Environmental justice/local pollution issues/human health impacts
 - Food security/sovereignty
 - Wealth distribution

A photograph showing a young child standing in a vast, dry, and cracked landscape. The ground is covered in a dense pattern of irregular, polygonal cracks, indicating severe drought. Several tree stumps of varying heights are scattered across the scene, suggesting deforestation. The background shows a flat, open area with more stumps and some sparse, dry vegetation under a clear sky. The overall tone is somber and highlights environmental degradation.

Human actions are depleting Earth's natural capital...

The ability of the planet's ecosystems to sustain future generations can no longer be taken for granted.

Millenium Ecosystem Report

With appropriate actions it is possible to reverse the degradation of many ecosystem services over the next 50 years, but the changes in policy and practice required are substantial

Millenium Ecosystem Report

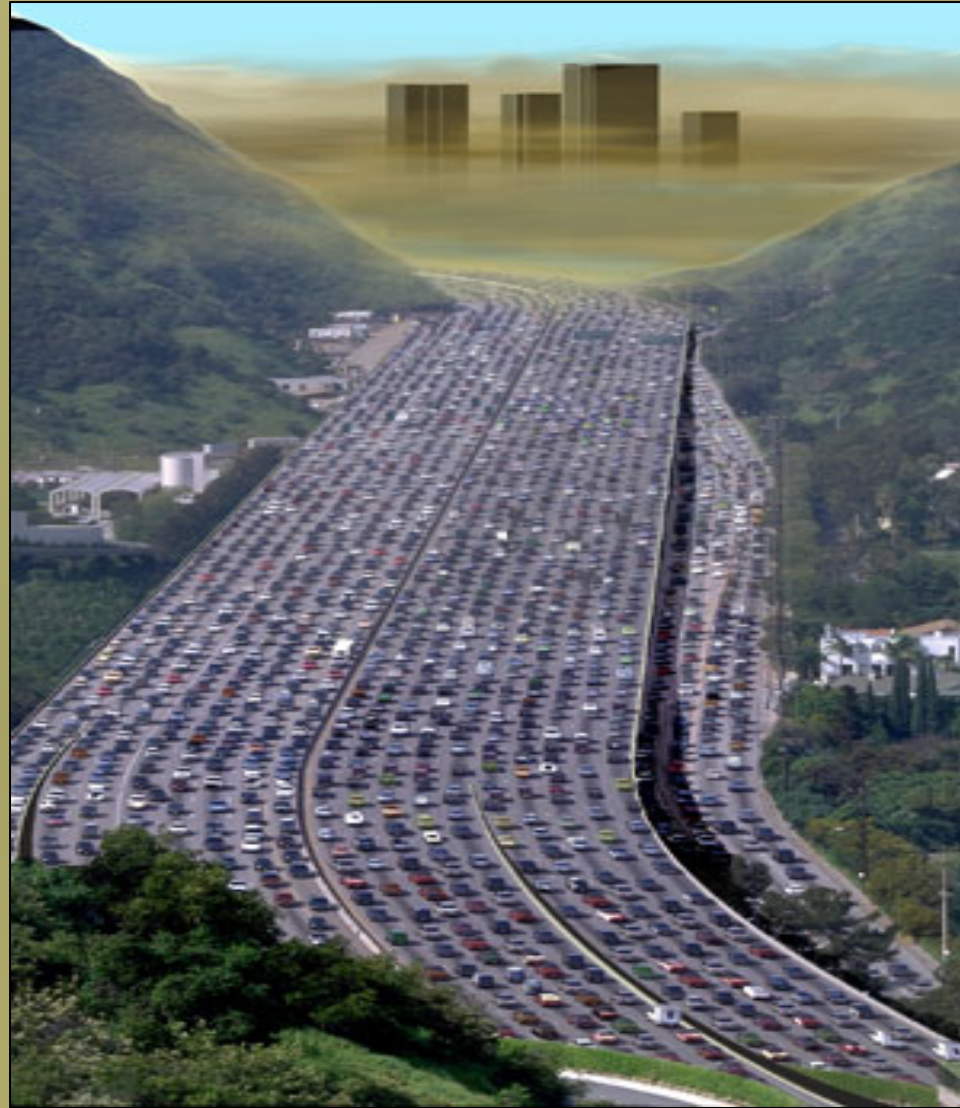


Transportation....

**CA 95%
dependent on
petroleum**

**Transportation
causes 38% of
GHG emissions
in CA**

**Vehicle Pollution
linked to
respiratory illness,
disease, and
death in Children
and adults**



Sustainability matters



Application of Sustainability Principles

Given the broad range of sustainability metrics, and our current limited means of quantifying many of these measures, the application of sustainability principles will be a process of continual refinement.

Near Term

- Identifying appropriate Sustainability Metrics
- Setting meaningful sustainability goals, objectives, and standards
- Assessing existing tools /quantification measures/undertaking gaps analysis
- Initiating research or developing quantification methods where necessary
- Setting average and default numbers
- Creating initial tracking and monitoring obligations
- Setting boundaries
- Building cooperative bridges between agencies

Mid Term

- Developing full life cycle tracking systems
- Increasing individualized reporting requirements
- Refining quantification methods and continuing research/studies
- Tightening objectives
- Expanding social justice criteria
- Assessing impacts of regulations and modifying where necessary
- Adjusting sustainability parameters on a periodic basis

Long Term

- Including mandatory social equity measures including labor, wealth, distribution, etc.

Certification v. Standards

Potential Drawbacks

- Industry participation is voluntary
- Industry may be setting own standards
- Requirements may be procedural rather than substantive
- Lack of enforceability (only revocation or expulsion available)
- Lack of transparency and public involvement
- Self reporting without verification
- 3rd party certification – limited credibility to extent paid by company (reducing independence and objectivity) and certifiers generally have a great deal of discretion and judgment authority

Potential benefits – certification systems can more easily reach beyond national boundaries.

2007 Energy Security and Independence Act

I) **RENEWABLE BIOMASS** - The term 'renewable biomass' means each of the following:

(i) Planted crops and crop residue harvested from agricultural land cleared or cultivated at any time prior to the enactment of this sentence that is either actively managed or fallow, and nonforested.

(ii) Planted trees and tree residue from actively managed tree plantations on non-federal land cleared at any time prior to enactment of this sentence, including land belonging to an Indian tribe or an Indian individual, that is held in trust by the United States or subject to a restriction against alienation imposed by the United States.

(iii) Animal waste material and animal byproducts.

(iv) Slash and pre-commercial thinnings that are from non-federal forestlands, including forestlands belonging to an Indian tribe or an Indian individual, that are held in trust by the United States or subject to a restriction against alienation imposed by the United States, but not forests or forestlands that are ecological communities with a global or State ranking of critically imperiled, imperiled, or rare pursuant to a State Natural Heritage Program, old growth forest, or late successional forest.

(v) Biomass obtained from the immediate vicinity of buildings and other areas regularly occupied by people, or of public infrastructure, at risk from wildfire.

(vi) Algae.

(vii) Separated yard waste or food waste, including recycled cooking and trap grease.

Senate Bill 1240

- Maintain or improve air quality
- EJ - prohibit disparate impacts on low income communities
- Account for greenhouse gas emissions on a full fuel cycle basis
- Avoid or mitigate to the maximum extent feasible significant environmental impacts on species, habitat, ecosystems, land use, biodiversity, air quality, water supply, and production of food
- Enact reporting requirements for regulated entities to monitor impacts
- Issue a report every 3 years to assess any significant impacts associated with implementation of the LCFS and compare such impacts with impacts associated with petroleum fuels that have been replaced
- Update of the LCFS regulations to avoid or mitigate any identified harms.

Thank You.

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