

Keith Moo-Young, Pre-Meeting Comments on ROE 2014 (received 7/26/2014)

2(a). Please comment the on the adequacy by which sustainability has been incorporated into the ROE. More specifically, please comment on the descriptions and explanations for the sustainability theme, question, and the four associated indicators.

Sustainability has not been adequately incorporated into the ROE. The sustainability themes seem to be an add on as opposed to an integrated framework. The major challenge is how do you measure the environmental sustainability through an indicator.

Sustainability indicators are different from traditional indicators of economic, social, and environmental progress. In theory, an indicator helps you understand where you are, provides future direction and describes your current position regarding your goal. A good indicator alerts you to a problem before it gets too bad and helps you recognize what needs to be done to fix the problem. Indicators of a sustainable community point to areas where the links between the economy, environment and society are weak. They allow you to see where the problem areas are and help show the way to fix those problems.

The data provided gives national scale data from common governmental data sets. The utility of these data sets seems weak due to the fact that there are so many other factors which contribute to the data set, it is hard to see how they (solid waste, hazardous materials) correlates directly to indicating sustainability. Increases in solid waste does not directly show sustainability, nor does the increase in solid waste per person. However, an increase in recycling and reuse practices can be correlated to a more sustainable environment. The current data can be utilized to provide a sustainability index that correlates to the increase that has occurred in composting, recycling, and combustion with energy recovery to landfilling practices.

The energy indicator describes three graphs with U.S. energy consumption by source, by industry and indexed. This provides an excellent picture for what and how energy is consumed and by whom. However, the index, consumption or source graphics do not provide a sustainability indicator to determine how non-fossil fuel energy consumption is increasing or decreasing. Another potential way to illustrate energy sustainability would be to illustrate an index showing the ratio of non fossil fuel consumption to fossil fuel consumption.

Hazardous waste indicator seems to be incomplete and over an 8 year period. This seems to be a deficiency in the data set to provide a robust indicator. The data provided on generation versus management practices provides a trend. However, this reviewer is unclear how this provides a sustainability indicator. Data on material recovery and reuse compared to the overall hazardous waste disposed may be a way to illustrate a sustainability indicator

2(b). Please address the utility of the four new sustainability indicators for informing the reader on

the intensity of resource consumption and the relevance of these intensity metrics.

The four sustainability indicators are informational to the reader. They are at best surrogates to illustrating sustainability. However, it does not provide detail or guidance to the reader on what the information provides the reader regarding sustainability. The Energy indicator provides basic information on how energy is consumed, sectors that use the energy, and indexes energy based on GDP. This does not indicate sustainability of resources. The intensity metric may be better served by conducting an annual comparison to sustainable practices such as renewable energy.

Solid waste indicators also can be improved by show the linkage of how solid waste production has increased due to the increase in population. However, landfilling practices have reduced due to sustainable practices of recycling, reuse, and energy combustion.

Hazardous waste indicators have limited data. Thus, to provide a direct correlation to sustainability, it may be in the programs interest to determine if there is data on hazardous material recovery or other sustainable practices in the industry.

Freshwater withdrawals provides basic information on the practice of water use. Water withdrawal compared to GDP does not directly provide a sustainability index.

2(c). EPA is anticipating expanding the sustainability theme with additional questions and indicators in future ROEs. Please provide any specific recommendations on additional sustainability topics, indicators, and extant data sources that are important to pursue. Please provide your rationale for prioritizing additional topics and indicators.

This reviewer suggests the following potential indicators to be considered for future Reports on the environment regarding sustainability:

1. Climate systems (covering climate and climate change, climate risk management, mitigation and adaptation). There is considerable data which can be compared on climate change. This would be easy for EPA to implement.
2. Human settlements and habitats (covering cities, urbanization and transport).
3. Expanding Energy systems (covering energy use, energy conservation, renewable energy, energy efficiency and bioenergy).
4. Ecosystem systems (covering natural and managed ecosystems, forestry, food systems, biodiversity and ecosystem services).
5. Carbon and nitrogen cycles (covering sources and sinks, feedback processes and links to other systems).
6. Aquatic systems (covering marine and fresh water ecosystems, fisheries, currents and biodiversity).