

Sustainability for Renewable and Nonrenewable Resources

Conflicting Paradigms should shift toward a New Model for the Common Good

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Abstract

The increasing utilization of nonrenewable resources extracted from the earth has resulted over time in an expectation by society that those who benefit from the extraction must maintain the sustainability of the land from which the resources have been extracted. The cultural objective of sustainability is contradictory as it is currently applied to the extractive industries. For instance, rare earth elements will be needed for the growth of the renewable energy industry. Fertilizers will continue to be mined to maintain modern levels of food production. For very many essential materials, there are no sustainable substitutes and it is unrealistic to expect extraction will cease in the foreseeable future if we wish to sustain our modern life.

This expectation of sustainability has not been perceived as anything but advantageous to the extractive industries. For sustainability purists, the extractive industries by definition, are not sustainable and therefore will have no place in a sustainable future. For those committed to the extractive industries, sustainability efforts do not create values that support their objectives. The modern requirements for placing some form of surety to guarantee the sustainability of the land has become a major financial burden on some industries, even to the creation of a barrier to entry for some products and companies. Site restoration requirements have only been imposed as punitive burdens on the extractive industries with prohibitions even for profitability for cleanups of impacted water and land under enforced cleanups.

Industrial developers of extractive resources cannot typically combine with a sustainability enterprise due to the irrationality of such a combination in the perceptions of the investment community. Currently, there is no framework for rewards to the extractive industries when they include sustainability enterprises in their business plans. Clearly there is a gap to be filled by enterprises that can provide this sustainability to extractive industries.

The extractive industries will be more sustainable by following these objectives:

- maintaining access to the nonrenewable resources until a sustainable substitute is developed
- addressing the permanent negative effects of extractive industries on the land, and
- creating sustainable productive use of infrastructure and the lands that includes extractive industries.

In order to move toward sustainability, companies and society must fill the gap by creating an economic framework for including sustainability enterprises in the business plans for the extractive industries. This presentation proposes several types of sustainability enterprises to support the objectives of the extractive industries.

SUSTAINABLE COLLABORATIONS

SUSTAINABILITY ENTERPRISES

- Sustainable enterprise separate from extraction
- Combine uses of infrastructure
- Provide economic funding restoration obligation
- Continue economic activity during/after closure
- Ownership & restoration responsibility at closure
- Restore ecological resources
- Continuing post-production economic activity
- Sustain communities
- Minimize overall land disturbance

EXTRACTIVE INDUSTRIES

- Sever extractive business from sustainable enterprise
- Partner with sustainability enterprises
- Construct assets with post-production/land use included
- Support concurrent sustainable enterprises
- Immediate exit of assets at end of productive life
- Transfer restoration obligation to sustainable enterprise

PROPOSED EXTRACTIVE INDUSTRIES SUSTAINABILITY PARADIGM

- ✓ maintain access to the nonrenewable resources until a sustainable substitute is developed,
- ✓ address the permanent impacts of extractive industries on the land, and
- ✓ sustainable production that includes sustainable enterprises,
- ✓ transfer restoration obligation to sustainable enterprise.

SUSTAINABILITY PURISTS PERCEPTIONS

EXTRACTIVE INDUSTRIES HAVE NO PLACE IN A SUSTAINABLE FUTURE:

- Permanent Land/Water Degradation
- Depletable Resources
- Site Restoration / Exit = Justified Punitive Burden

EXTRACTIVE INDUSTRIES = UNSUSTAINABLE

EXTRACTIVE INDUSTRIES PERCEPTIONS

SUSTAINABILITY CRITERIA HAVE NO PLACE IN A PROSPEROUS FUTURE

- No Realistic Substitutes
- Demand for Resources Increasing
- Sustainability = Barrier / Economic Burden

SUSTAINABILITY = NO REWARD