a major integrated
energy company

BUSINESS/ENVIRO SUSTAINABILITY-SUST 555

ANALYSIS OF ENI'S BUSINESS IMPACTS TO ECOSYSTEMS

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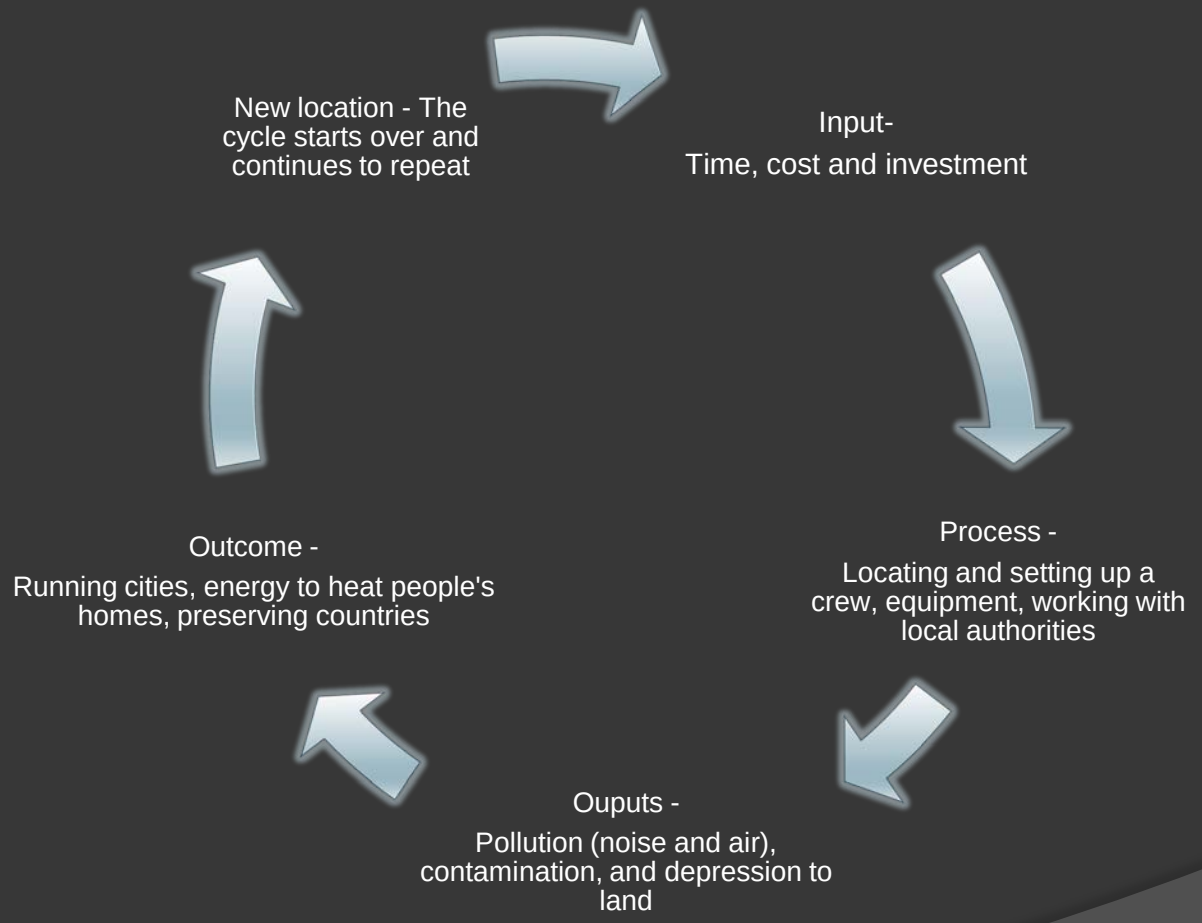
History Summary of Eni

- Multinational oil & gas company with headquarters located in Rome, Italy
- Resources include natural gas, petroleum, crude oil, hydrocarbon, and energy
- Provide the entire country of Italy with power
- GRI report shows the company is interested in seeking to participate in a global trend to promote sustainable aspects.
- Waste management diversion plan has been implemented for sites in order to protect waste going to the landfills
- Dedicated to collaborating with local organizations and entities in an effort to adhere to sustainable efforts and codes

Outputs and Inputs



Effects on Ecosystems due to Inputs

Biomes	Niches	Ecosystem functions	Natural Resources
• Flora • Fauna • Algae • Animals • Mammals	• Extraction Hotspots • Mid-East Oil • Antarctica –Oil • South America	• Fresh Water • Animal Breeding • Ecotourism • Climate Regulation • Carbon Sequestration • Production of Vegetation	• Water • Land • Soil Nutrients • Species • Habitats

With potential disruptions from Eni's presence in extraction sites of oil rigs, heavy machinery, crew of workers, and more this can cause a concern for the sake of the ecosystem. Possible disruptions could be air pollution, land contamination, water pollution, destruction of the vegetation, and much more. Just these disruptions alone could damage the ecosystem and harm the animal and plant species that call it home.

Another concern is the accidental cross-contamination of plants and animals from one habitat to the next due to the existence of these sites. This could lead to species extinction and mutations.

Homeostasis is a constant state that an ecosystem remains to keep their natural resources as well as to survive. – Chiras, 2009

Ecosystems and Social Impacts

Ecosystems Biomes:

- Ocean- Coral Reefs: Very fragile and can sustain ultimate damage from drilling for oil within the ocean
- Forests- Native Trees: Drilling for oil requires clearing and deforestation of the native trees which destroys animals' homes and plants
- Rainforests: High risk of cross-contamination and destroying trees for clearing a path to the site, leaving animals without homes
- Savannah- Grasslands: The weight and constant drag of the heavy machinery on the native grasses destroys them leaving indigenous animals without food
- Arctic – Tundra: Very fragile and relatively new ecosystem could face disruption to soil and the land
- Mediterranean Basin: Coast line drilling could lead to possible contamination from water pollution into the bodies of oceans harming marine life

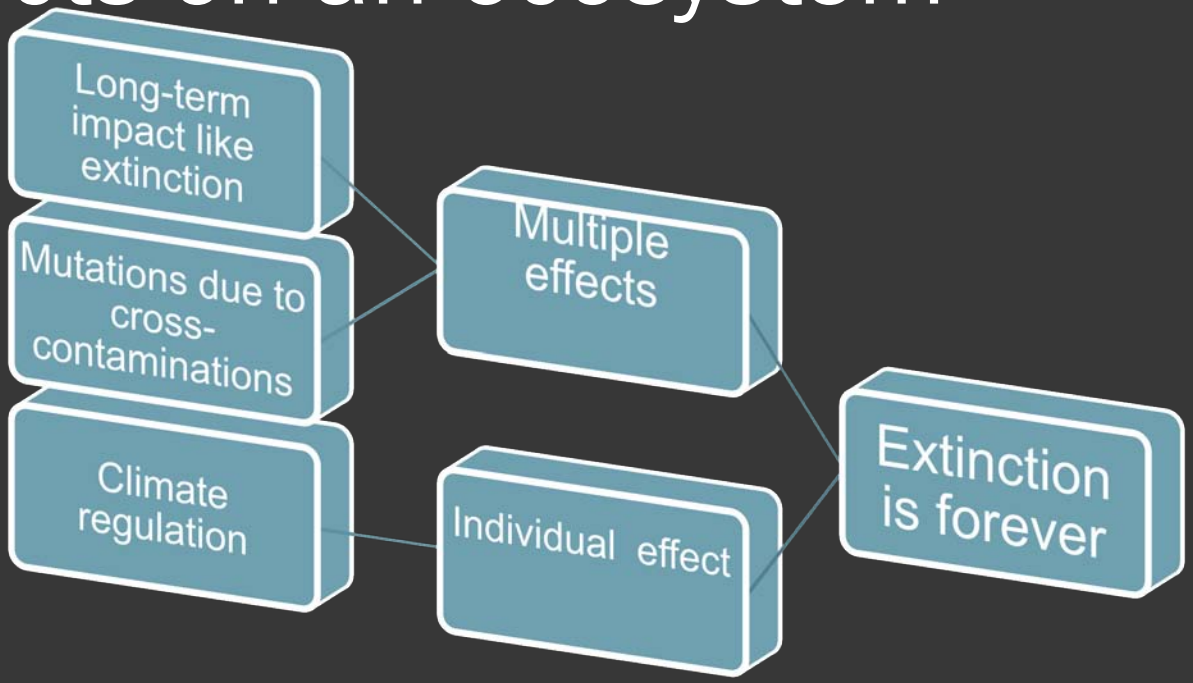
Social Impacts:

- Ocean- Coral Reefs: Impacts could include ecotourism and possible extinction
- Forests- Native Trees: Impacts may include climate regulation, extinction and social conflict
- Rainforests: Impacts may include endangering bacteria, plant and animal species cross contamination, and social impacts due to research organisms for cures to diseases
- Savannah- Grassland: Impacts may include extinction, animal breeding, and climate regulation
- Arctic- Tundra: Impact may include carbon sequestration, climate regulation, animal breeding, and hydrogeological protection
- Mediterranean Basin: Impacts may include contamination to fresh water, animal and plant breeding, and possible extinction

Potential Cost Savings and Benefits of Ecosystem Impacts

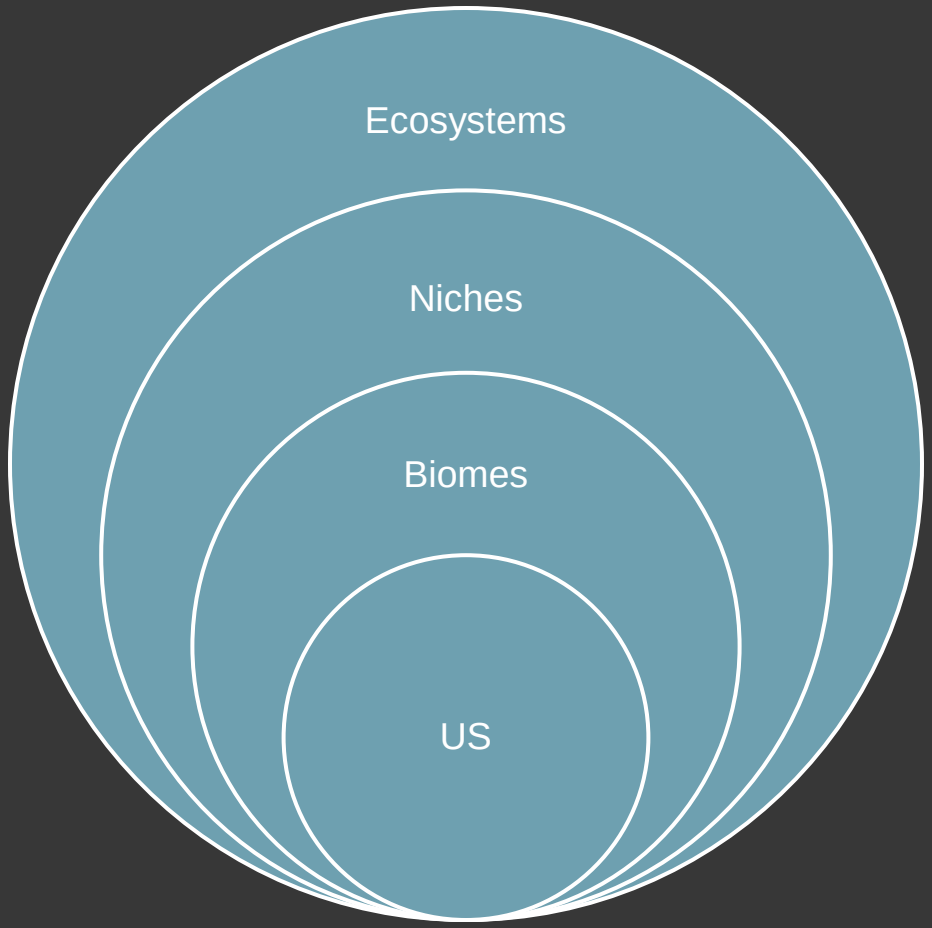
- Waste Management Plan – diverts waste from the local landfills
- ERMP solutions with other organizations – gains a better understanding of the potential risks and how to manage them as they arise
- Gas flaring reduction – reduces climate change because of less emissions being released into the atmosphere
- GHG baseline of Eni's past performance – will help determine projections for future years to see the improvements (or lack there are) to emission output
- Air quality protection – reducing NOX and SOX emissions that are harmful
- Optimizing fresh water resources – optimize the production cycles to limit the usage of fresh water for project purposes to allow for local communities to enjoy more
- Soil remediation – reduce possible contaminations
- Analyze possible severity to extraction sites prior to development – will gain a better perspective of how the ecosystems could be damaged and how to eliminate this destruction

Cumulative versus Individual effects on an ecosystem



Per the above graphic we can see that multiple effects have a stronger impact than an individual which could very well lead to extinction to an animal or plant species. Ecosystems can restore themselves to a certain degree but when there are multiple effects happening to one ecosystem with back to back impacts there leaves little room for restoration. Ecosystems can take decades and sometimes eons to repair itself without any further damage. Human intervention will help an ecosystem get further along with restoration but there are many necessary items that need to be done prior such as study of the native plants and animals to understand how to go about restoring their habitat.

Conclusion



ENI is a multinational oil and gas company that incorporated means and efforts to create a minimal impact to existing ecosystems at extraction sites. These efforts include management plans, collaboration with others, reduction in emissions through baseline facts, and much more. These efforts are huge steps in the direction to create a sustainable process for this company. In addition, ENI is looking to be leaders to protect the environment for others to enjoy. There are many more elements that exist within an ecosystem that can be affected and there are larger entities than just ourselves, humans, that we need to remember can be affected. To understand and realize the impact we have on an ecosystem both socially and environmentally we can provide a better action plan to counteract those impacts.

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