

Green Region and the Role of SEA/EIAs

Akira Tanaka

Tokyo City University, Japan

Keywords: Carrying Capacity, Sustainability, Tiering, Zoning, No Net Loss, Biodiversity Offset/Bank, HEP

What is “green region”?

A green region (GR) refers to the states of balance between cumulative negative impacts (net loss) on the ecosystem resulting from human activities such as development and cumulative positive impacts (net gain) due to conservation efforts with respect to certain region. It is also defined as a sustainable state in which the difference between the net loss and net gain of a region is within its carrying capacity.

While the scope of GR, likewise with ecosystems that range from a small aquarium to the spaceship Earth, can be considered at various scales of extent, local, regional and global, it is desirable to apply the concept to an ecological unit such as a watershed shown in Figure 1.

Why a green region now?

Recently, with the proliferation of the use of renewable energy from wind and solar, there is a phenomenon whereby such power plants are becoming concentrated in some regions. Figure 2 depicts the current state of solar power plant developments in Izu Peninsula, Shizuoka. EIAs are not being conducted during the development of such plants because this type of development is still new and its scale is small. However, there is a serious possibility of cumulative impacts on the environment due to the concentration.



Figure 1 Concept of “Green Region”

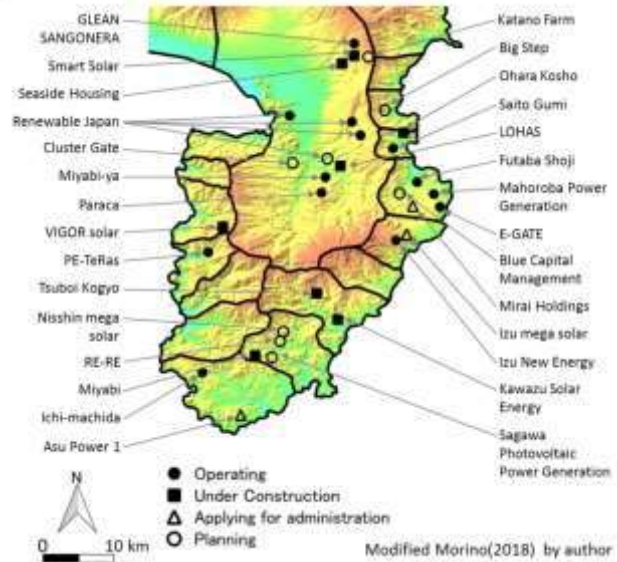


Figure 2 Location of Photovoltaic Power Generation Plant in Izu Peninsula, Shizuoka

The role of SEA/EIA in Green Region

There are several roles of SEA/EIA for a GR. In addition to the current approach of screening by scale of development project, screening by ecological vulnerability of the area and “zoning” with consideration for a region’s overall carrying capacity should be introduced. A “tiering” that applies environmental information including zoning, that is commensurate with the maturity of planning in the regional SEA and individual EIA respectively, should be introduced. Assessment of multiple alternative plans according to the “mitigation hierarchy” including “no action” should be introduced. “Quantitative methods” such as “HEP” for evaluation of both impacts and effects of mitigation measures, should be introduced.

Lastly, it is important to note that there are differences in how to conceive GR. Because some are specific to a land like biodiversity, while others are universal like CO2 and electricity..

References

Tanaka, Akira (2017) Can EIA be an effective tool for creating ecologically sustainable society? –From the aspect of “Green Region”, The 6th Korea-Japan-China Tripartite EIA Conference, p.13.