

TransFlow-synthesize linear infrastructures

The existing coal mining area is the most crucial opportunity to transform the city. Based on the current condition of site remediation, we propose to create a synthetic transiting framework. The framework will integrate multiple ecological, social, economical functions and construct a living metrics to promote the development of the whole city. We propose to transform brown fields into green fields to create significant numbers of green jobs. Also, through a transiting line, multifunctional green corridors, we connect the mining sites into a permeable network which will stimulate the development of adjacent urban areas in a sustainable way.

The transiting line is a highly flexible linear space that enables a variety of sites to be seamlessly connected. Furthermore, it will be a corridor with a hybrid of functions: a green corridor for ecological restoration; a recreational corridor for exercise and recreational activities; an economical corridor to support new green industry and businesses, and a cultural corridor to showcase the local cultural attractions and historical heritages.

1. Four Important Issues

Victoria's Latrobe Valley, together with its brown coal power industry, is experiencing important transitions on various aspects. There is a great possibility that the threats caused by the carbon pricing will have great negative effects upon its business competitiveness. As a result, a series of transitional strategies are required for the local transformation on the its industry, as well as its relevant aspects including community preservation, employment and business competitiveness of different companies who are operating traditional power industries.

There are four aspects of ecological remediation and it is a complete system of supporting facilities. They are hybrid of urban facilities, recovery of green space, ecological farm system, and waste recycles.

Area for facility represents the social aspect of people's life. With public facilities provided, people's activities get enriched within the mixed-used community. In consideration of the transition and remediation of this region, it is possible to transform the coal mines, which are previously negative spaces for both people and the environment, into a much more positive area that have restaurant, arena, lake and other entertainment facilities.

Area for green space, as the natural aspect of people's life, provides not only better scenery with spaces for recreational activities, but also a vessel for ecological diversity and waste disposal. Because of the destruction from long term coal mining, the local natural environment needs to be restored according to the differences of territory. Together with the other relevant areas we proposed, it becomes one of the chains in our transition line that will support the development of the farming area and benefit people's urban life.

Integrated green farming system with facilities will transfer poisonous chemicals with biological methods, the integrated farming system that we proposed functions as a hybrid region between urban activities and natural environment and gives people different experiences.

Waste recycle is a procedure that transfer wastes produced in urban area to useful resources so that they can be reused. There are two sources for this procedure. As coal mining area, there are inorganic wastes that are produced in power industry or released by factories. With the development of this region, the population increase also leads to the increase of inorganic waste. On the other hand, organic waste collected from the nature environment may also be exploited as resources to produce energy and products.

2. Design Solutions

Spatial Framework

The whole site can be divided into three types of spaces: dots, lines, and areas. Dots include coal pits landfills, new energy/green industry experimental sites, education/cultural sites, and open spaces. Lines include roads, footpaths, and linear green space. Areas include communities, and other coal pits with great size. The transiting line, a green corridor, is the key spatial element to stitch all spaces together. Also, it is a corridor for the further growth of the site. Dots connected by secondary-level corridors will form a grid to promote the development of adjacent areas of the site and also preserve important natural and cultural resources in the city.

Coal pits

We propose to transform coal pits into cultural attractions and tourism destinations. The existing sites will be remediated by vegetations. The coal pits can be places for all kinds of social gathering and performances. It also can be an outdoor museum to exhibit local industrial history. We will emphasize the interaction of visitors and places. Each coal pit may have specific theme according to different events or seasons.

Landfills

The new development will stimulate the growth of urban population. We propose to use the existing coal pits to treat increasing urban waste in an environmental-friendly way. The new landfills will be sites for specific vegetations which can increase decompose of house waste or as absorbent harmful heavy metal.

New energy/green industry

We propose to transform old mining sites and power industry to sites of green energy production: first, we will use household waste as materials of bio-diesel and ethanol. Second, we will use agricultural wastes such as debris, straw, and weed to produce bio-fuels. We will plant windmills and solar panels between agriculture plots and along the green corridor to produce clean electronic energy to substitute traditional power stations.

Sustainable Agriculture

We will use soil improving species plants to gradually transform brown field into agriculture land.

The agriculture land is also a learning place for children to experience agriculture production and learn ecological knowledge. The production can provide local enough food which can reduce consumption of energy caused by long-distance transportation. The development of ecological agriculture can create new green-collar jobs. Agricultural fields are also destinations for agricultural tourism. In addition, they will be experimental fields for greener energy.

3. Conclusion

We are proposing an ecological remediation plan for the existed coal mining area, and developing a transiting line to connect the programs developed out of the existing context and the opportunities from site remediation, as well as the existing programs in surrounding areas. By doing this, we will transform a brown city into a green one.



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PROJECT

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