

ECOLOGICALLY SUSTAINABLE DEVELOPMENT RESEARCH ESSAY

HSC ECONOMICS TASK #3

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Examine the issues associated with the goal of ecologically sustainable development.

Your examination is to include the analysis of a contemporary environmental issue.

Ecologically sustainable development (ESD) is the evolution of industries that conserve and enhance the community's resources so that ecological processes and quality of life are maintained. Economic growth (EG) occurs when there is a sustained increase in a country's productive capacity over time. It is fundamental that a country maintains an equal balance between ESD and EG, in order for the economy to thrive in the global marketplace.

As such, the Government must develop guidelines and endorse strategies of using environmental resources effectively [particularly non-renewables]; as these resources form the basis the economy, stimulating EG. Simultaneously, ESD utilises those resources to develop transformed products and to generate levels of employment within Australia. ESD incurs alterations to patterns of resource use, inclusive of the improvement of public goods i.e. the quality of air, land and water.

In 1992, the Government comprised the 'National Strategy for Ecologically Sustainable Development' (NSES) attempting to develop guidelines and endorse strategies of using environmental resources effectively. The document outlines a sustainable view of the interpretation and management of ecological and economic resources on a regional, national and international basis; whilst considering the *"wider economic, social and environmental implications of decisions and actions for Australia, the international community and the biosphere"*¹.

This report will address the issues associated with attempting to balance ESD and EG. Additionally, it will analyse the three core objectives of the NSES currently implemented within the mining industry in Australia; with reference to multinational resource mining company BHP Billiton (BHP).

¹ National Strategy for Ecologically Sustainable Development; Australian Government, Department of the Environment and Energy 1992

GROWTH AND ESD:

EG is recognised as one part of the basket of values that contribute to compose pecuniary development. Rather, *“The concept of ESD is aimed at ensuring that human activities are kept within an environmentally sustainable envelope of impacts on - and use of - the natural environment”*². It is established that EG is measured as a percentage increase in real Gross Domestic Product (GDP). However ESD is measured through natural capital indicators i.e. atmosphere degradation levels, biodiversity and natural resource usage. The Reserve Bank of Australia’s (RBA) Economy snapshot indicators released on the 3rd of May 2017³, illustrate that EG is steadily perched at 2.4% whilst the headline, supplementary and cross-cutting indicators aforementioned of ESD all remain at stable levels respectively in the economy. This indicates that Australia’s EG is increasing at the same rate that ESD is being increasingly incorporated into industrial practice.

MARKET FAILURE AND NEGATIVE EXTERNALITIES:

As aforementioned, the Government must focus on using non-renewable resources effectively within the economy to ensure that supply is not exhausted. They must also attempt integration of renewable alternatives that are environmentally friendly.

Environmental market failure occurs when the price mechanism does not allow for efficient allocation of resources. It is based upon two principles; resource depletion and resource degradation. When free markets do not maximise society’s welfare they are said to ‘fail’ and policy intervention may be needed for correction. An example of this is the use of coal-fired power stations, eg Hazelwood [closed as of March 2017]. The Hazelwood power station (HPS) used to crush and dry coal into a fine powder, burn it, process it through an electro-static precipitator, and release excess Carbon Dioxide into

² Sustainable Development – Australian Process; ‘Environmental Groups and Sustainable Development’ 2015 UOW

³ Reserve Bank of Australia, Economy Snapshot PUBLISHED 3rd May 2017

the atmosphere. This inflicted negative externalities on local communities as public goods i.e. land and air were contaminated and degraded for financial benefit.

Whilst closing the power station immensely increased unemployment rates, the Government deemed that the stations' impacts on the environment were too severe, and policy intervention was required. The closing of HPS promotes alternate use of renewable power sources i.e. solar panels and wind turbines, to supplement for the energy formally produced at the station. In NSW, the Government has instituted 'Electricity feed-in tariff'⁴ rebates for house owners, landlords, renters and business owners to encourage the use of solar energy as a substitution of coal-power electricity usage.

ENVIRONMENTAL DEGRADATION:

Economists, analysts and environmentalists observe the linkage between economic growth and environmental decline. Australian academic Ted Trainer has forcefully argued that present day forms of global economic development are environmentally and socially untenable. His economic solutions call for "a reduction in *material living standards in industrialised countries*" which by implication, will lead to negative EG.

A sustained period of negative growth could worsen the state of the environment. The recession in Australia in the 1980's saw the government frantically willing to '*fast track*' projects of industrial development which, in more economically stable periods, would have been further scrutinised for the environmental impacts they induced. Recessionary times can ease investment thereby decrease the development of more efficient technology and increase our reliance on inefficient, environmentally degrading alternatives. An example of this is the use of fuel inefficient transportation means i.e. cars, when consumers' confidence in the economy is low, and thereby they choose to save their income as opposed to spending it on efficient means of transportation.

⁴ Your Energy Savings, NSW Government rebates within Electricity.

In the short term, negative EG can lead to a fall in resource and energy demand and thereby pollution but, as stated previously, the management of ecological and economic resources consider the wider, social, environmental and economic implications with a long term view of sustaining balance of ESD and EG.

Is the Australian economy required to experience negative economic growth to operate within ecologically sustainable means? This concept relies on the ability to de-couple economic activity from energy and resource consumption.

DECOUPLING GROWTH AND ENVIRONMENTAL DEGRADATION:

Rising incomes lead to increased patterns of energy and resource usage, and thereby environmental degradation and pollution. This was evident between 1980-1990, where the intensity of resource and energy use in industrial economies was decreased; leading to the flow on effect of a decline in primary industries (agricultural extraction based) and an increase in tertiary industries (service and information based).

The long term analysis of industrialised economies (such as Australia), identified how the quantity of physical material and energy input per unit of economic activity is progressively declining. The immense improvements in technological resources has allowed the economy to gain a competitive advantage in the global marketplace. This leads to a reduction in pollution from the manufacturing process by incorporating '*environmentally friendly alternatives*'. Moreover, technological advances lead to a reduction in costs of environmental protection, which encourages more industry's to partake in the movement, leading to ESD.

Conversely, technological advancements in the economy are not sufficient enough to effect a decoupling of EG from resource usage and pollution. The overall change in lifestyle by consumers will have a durable influence on the reduced level of environmental impact, as consumers '*take the first step*' towards a sustainable environment by sacrificing the manners of their material living standards.

This can be achieved by tightening laws and regulations in marketing and advertising, to reduce the quantity of promotional media that consumers are exposed to on a daily basis.

CORE OBJECTIVES – BHP BILLITON (BHP):

Reputably, BHP is a leading global resource company aiming to “*create long-term shareholder value through the discovery, acquisition, development and marketing of natural resources.*”⁵ From this statement, it can be ascertained that the company places a greater emphasis on creating value for shareholders rather than engaging in environmentally friendly quarrying of resources. In the Australian economy in particular, a balance may be difficult to obtain since it is predominantly commodity-based. Thereby our export market relies heavily on excavated resources which are then shipped overseas, providing substantial value in the determination of EG. However, the following analysis will demonstrate the implemented framework, objectives, policies and key commitments that BHP have developed to achieve ESD in compliance with the NSESD.

The three core objectives of the NSESD are:

- 1. to enhance individual and community well-being and welfare by following a path of economic development that safeguards the welfare of future generations**
- 2. to provide for equity within and between generations and,**
- 3. to protect biological diversity and maintain essential ecological processes and life-support systems**

The first objective is clearly identified as the process of ESD. BHP acknowledges in the Sustainability Framework⁶ that due to their wide scale operations across the world, the industrial processes impact the environment i.e. degradation of public goods. The first subsection policy is to “*enhance biodiversity protection by assessing and considering ecological values and land-use aspects in investment, operational and closure activities*”. This policy entails that BHP assesses the steps in the production and

⁵ BHP Billiton – Our Approach, Your Community

⁶ Resourcing the Future – BHP Billiton

transformation process to constantly introduce sustainable means of the extraction of minerals; this is done through the introduction of new technology i.e. target drilling.

“Starting from project inception, we identify, assess and manage the specific risks to biodiversity including those posed by closure of an operation”. BHP contributes to the enhancement of biodiversity protection through the alliances with conservation partnerships and global research movements. BHP is aligned with Conservation International⁷ (CI), whom provide strategic guidance on the design and implementation of global conservation projects in conjunction with local partners. CI also provides technical expertise to BHP to manage land and enhance biodiversity in a responsible and sustainable manner.

The second policy states that BHP will endure to *“set and achieve targets that promote efficient use of resources and include reducing and preventing pollution”*. By improving waste management practices, including waste minimalisation, recycling and pollution prevention through proper disposal, BHP complies with national and international waste management regulations whilst ensuring the recovery of resources to maximise efficiency thereby, reducing environmental impact. BHP states in the BMA Alliance Environmental Impact Statement⁸ that they aim to segregate waste for either reuse or recycling, ensure cleaner production and reduce negative externalities by using renewable sources and ensuring appropriate waste disposal to sustain a high quality of public goods.

Assessing the second objective, permits the first policy for Community Relations in BHP Sustainability Framework to come to light. The first policy statement is that the company *“engages regularly, openly and honestly with our host governments and people affected by our operations, and take their views and concerns into account in our decision making”*. This ensures that the equity of generations is cared for as the policy aids the company to establish platforms for dialogue that take into account cultural requirements

⁷ CI – BHP BILLITON ALLIANCE Website

⁸ BHP Billiton Mitsubishi Alliance Red Hill Mining Lease Environmental Impact Statement

and enables BHP to collaborate with stakeholders to develop strategies to address their concerns and aspirations in regards to community development.

The second policy statement is that the company aims to *“develop partnerships that foster the sustainable development of our host communities, enhance economic benefits from our operations and contributes to poverty alleviation”*. This is vital to the development of BHP as it enables robust partnerships that focus on sustainable community development, simultaneously enhancing ESD and EG.

BHP is also a member of the International Council on Mining and Metals (ICMM), additionally supporting the Extractive Industries Transparency Initiative (EITI); which is a global initiative to improve governance in resource-rich countries through the verification and full publication of company payments and government revenues from oil, gas and mining. BHP releases all verification and publication of revenues on their website and in their annual financial report for public viewing.

The third core objective that BHP aims to do is to *“protect biological diversity and maintain essential ecological processes and life-support systems”*. The first key commitment in the section of Climate Change and Energy states that *“we will understand the sources, scope and extent of greenhouse gas emissions associated with our activities and we will continually improve energy and greenhouse gas management at our site”*. This is highly beneficial to the community as it allows transparency in reporting of the company’s emission profile, inclusive of the emissions from production activities; and ways in which they are intended to effectively reduce greenhouse gas emissions.

The objective further enables the company to share leading practice and innovation in energy and operational efficiency to deliver savings in emissions and costs; ensuring public goods are not contaminated and the practice of ESD is consistent between all resource mining industries.

The second key commitment states that the company aims to *“work collaboratively with customers, communities and employees to reduce emissions and support internal emission reductions projects”*.

BHP agreed to spend \$300 million (USD) over the period of 2008-2012 to support industry research, development and demonstration of low emissions technologies including collaborative research dedicated to accelerating the commercial uptake of technologies eg. Geosequestration⁹. The \$300 million investment also aimed to provide capital funding for internal energy products with a greenhouse gas emissions reduction component that may not otherwise be competitive within the normal capital allocation process. The current contribution of BHP to greenhouse gases is 518 kilo tonnes of carbon dioxide per annum, this is generated through production activities and is released into the atmosphere. This injection of capital led to a 7% decrease in excess carbon emissions released into the atmosphere, overall improving the quality of public goods.

In summation, there are various issues that are associated with the goal of ESD, the most prevalent being the difficulty in obtaining the balance between ESD and EG, particularly in a predominately commodity-based economy such as Australia. It is evident that leading global resource mining company BHP has implemented several policies and key commitments to comply with the objectives of NSESD, but to also enhance public goods and decrease negative externalities, so that ecological processes and quality of life are maintained throughout future generations.

⁹ Also known as 'Carbon Capture' and involves capturing the Co2 from coal burning power stations, ensuring it is not released into the atmosphere; government funded incentive to endorse ESD.

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