

**RESOURCE SECURITY (OPTION)**

<b>3.2.5.1 RESOURCE DEVELOPMENT</b>	<b>R</b>	<b>A</b>	<b>G</b>
Concept of a resource. Resource classifications, to include stock and flow resources			
Stock resource evaluation: measured reserves, indicated reserves, inferred resources, possible resources			
Natural resource development over time: exploration, exploitation, development			
Concepts of resource frontier and resource peak			
Sustainable resource development. Environmental Impact Assessment (EIA) in relation to resource development projects			
<b>3.2.5.2 NATURAL RESOURCE ISSUES</b>	<b>R</b>	<b>A</b>	<b>G</b>
Global patterns of production, consumption and trade/movements of energy and ore minerals.			
Global patterns of water availability and demand			
The geopolitics of energy, ore mineral and water resource distributions, trade and management			
<b>3.2.5.3 WATER SECURITY</b>	<b>R</b>	<b>A</b>	<b>G</b>
Sources of water; components of demand, water stress			
Relationship of water supply (volume and quality) to key aspects of physical geography – climate, geology and drainage			
Strategies to increase water supply to include catchment, diversion, storage, water transfers and desalination			
Environmental impacts of a major water supply scheme incorporating a major dam and/or barrage and associated distribution networks			
Strategies to manage water consumption (including reducing demand)			
Sustainability issues in water management: virtual water trade, conservation, recycling, ‘greywater’ and groundwater management			
Water conflicts at a variety of scales – local, national, international			
<b>3.2.5.4 ENERGY SECURITY</b>	<b>R</b>	<b>A</b>	<b>G</b>
Sources of energy both primary and secondary. Components of demand and energy mixes in contrasting settings			
Relationship of energy supply (volume and quality) to key aspects of physical geography – climate, geology and drainage			
Energy supplies in a globalising world: competing national interests and the role of TNCs in energy production, processing and distribution			
Environmental impacts of a major energy resource development such as an oil, coal or gas field and associated distribution networks			
Strategies to increase energy supply (oil and gas exploration, nuclear power and development of renewable sources)			

Strategies to manage energy consumption (including reducing demand)			
Sustainability issues in energy production, trade and consumption: acid rain, the enhanced greenhouse effect, nuclear waste and energy conservation			
<b>3.2.5.5 MINERAL SECURITY</b> <b>With reference to iron ore or a specified globally traded non-ferrous metal ore e.g. copper, tin, manganese:</b>	<b>R</b>	<b>A</b>	<b>G</b>
Sources of the specified ore. Distribution of reserves/resources.			
End uses of the ore. Components of demand for ore. Role of specified ore in global commerce and industry			
Key aspects of physical geography associated with ore occurrence and working: geological conditions and location			
Environmental impacts of a major mineral resource extraction scheme and associated distribution networks			
Sustainability issues associated with ore extraction, trade and processing			
<b>3.2.5.6 RESOURCE FUTURES</b>	<b>R</b>	<b>A</b>	<b>G</b>
Alternative energy, water and mineral futures and their relationship with a range of technological, economic, environmental and political developments			
<b>3.2.5.7 CASE STUDIES</b>	<b>R</b>	<b>A</b>	<b>G</b>
<b>Case study</b> of <b>either</b> water <b>or</b> energy <b>or</b> mineral ore resource issues in a global or specified regional setting to illustrate and analyse themes set out above, their implications for the setting including the relationship between resource security and human welfare and attempts to manage the resource			
<b>Case study</b> of a specified place to illustrate and analyse how aspects of its physical environment affects the availability and cost of water <b>or</b> energy <b>or</b> mineral ore and the way in which its used			