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| **A-Level – Carbon Cycle and Energy Security** | **Unit Navigator –Carbon Cycle and Energy Security** | | | | |
| **LG1**: Demonstrate knowledge of locations, places, processes, environments and different scales.  **LG2**: Demonstrate geographical understanding of concepts and how they are used in relation to places, environments and processes. The inter-relationships between places, environments and processes.  **LG3:** Apply knowledge and understanding to interpret, analyse and evaluate geographical information and issues and to make judgements. Select, adapt and use a variety of skills and techniques to investigate questions and issues and communicate findings. | Assessment Grades | Key terms: | | | |
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| **Theme** | **Learning Goals/Outcomes/Content** | |  |  |  |
| **L1 – The Carbon Cycle** | **LG1/2:** To understand the important cycles, stores and fluxes that make up the global carbon cycle. | |  |  |  |
| **L2 – Carbon Fluxes** | **LG1/2:**To understand the fluxes of carbon between different stores and the processes that are involved | |  |  |  |
| **L3 – Carbon Sequestration and Human Influences** | **LG1/2:** To understand carbon Sequestration and understand the impact that Human activity is having on the Carbon Cycle. | |  |  |  |
| **L4 – Nutrient Cycle and Carbon Stores** | **LG1/2:**to understand how carbon fluxes through the nutrient cycle and to review carbon cycles up to now. | |  |  |  |
| **L5 – Energy Security, Energy Consumption and Energy Mix** | **LG1/2:** To understand the concept of energy security. To understand how the energy mix and energy consumption varies globally and the reasons for this. | |  |  |  |
| **L6 – Energy Pathways** | **LG1/2:**To understand the mismatch between energy supply and demand. To understand the main global players and supply pathways. | |  |  |  |
| **L7 – Unconventional Fossil Fuels** | **LG3:** To evaluate the costs and benefits and issues related to exploiting unconventional fossil fuels. | |  |  |  |
| **L8 – Alternative Energy Sources** | **LG1/2/3:** To understand the viability of alternative energy sources and assess how they affect the energy mix of countries now and in the future. | |  |  |  |
| **L9 – Radical Technologies** | **LG1/2:** To understand and assess the potential technological advances that could reduce carbon emissions and reliance on fossil fuels. | |  |  |  |
| **L10 – Human Threats to the Global Climate System** | **LG2/3:**To understand that human actions alter the carbon & water cycles, that these affect human well being and that climate change may have an impact on carbon and water cycles. | |  |  |  |
| **L11 – Future Climate Projections and Responses** | **LG1/2/3:**To understand and assess the future climate scenarios and approaches to adaptation and mitigation of effects. | |  |  |  |
| **L12 – Revision and Assessment** | Students should be able to think synoptically about the concepts and issues raised in this unit, drawing on their knowledge and understanding from across Unit 1 and Unit 2 topics. They should be able to assess the likelihood of future scenarios with respect to Energy Security and Climate Change, looking at the impact of these scenarios on other global systems and orders. | |  |  |  |

**Links:**

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