Lesson 7: Siting an aluminium smelter

Central Government Committee brief

Your task starts by taking an overview of the whole island and the 5 proposed sites. You can also nominate one of your advisory panel to approach the experts to find out information from them about their 'Magic factor'.

You are ultimately in charge of making a decision about the location of the new smelter. You will come to your own conclusions about the best site, I'm sure, but try to base your decision mainly on the strength of the argument from the ASDTs.

Take into account ...

Site. Should be flat and dry with good stability. Areas prone to flooding are not great but, other things considered, sea defences could be built.

Sea Port. Vital to have close access to a major sea port to allow delivery of alumina from overseas as you don't have any alumina supplies yourselves. Also, the port needs to be a depth of at least 16m to allow the tankers safe passage into the port. Some shallower ports could be dredged or platforms built out into deeper water but this is all very expensive.

Good road and rail communications. Heavy transport will be needed to carry products to market and raw materials to the plant. The major raw materials apart from alumina are carbon and pitch for the huge anodes and cryolite electrolyte of which you are lucky enough to have massive resources in the northern region.

Power. The enormous electricity requirements will put a huge strain on your national grid system. An alternative source of power would be a major deciding factor.

Workforce. A skilled engineering workforce and scientific workforce is required. Bear in mind that you already have a shortage of these types of workers in some areas of the island due to local heavy industry.

Market. Your island has a huge market for aluminium products due to the incredibly bad rust problems. As long as the accesses to the road and rail networks are good, proximity to market is not really a major concern.

Environmental considerations. Tourism is a major industry in some parts of the island. You are also very proud of your Sites of Special Scientific Interest which host some rare and world renowned species of animal and plant. There is very little waste from smelting plants but the potential for noxious gases such as fluorine to be given off.

Lesson 7: Siting an aluminium smelter

Central Government Committee brief

Economic. You have some considerable reserves of money to give incentives to sites which, even though they are not ideal in some areas, provide massive benefits to the local communities.

For each site, you will need to score each of these factors out of 10 depending on how good you think the site meets the requirements. Record your decisions in the table.

	A	B	C	D	E
Site					
Sea port					
Road & rail communications					
Power					
Workforce					
Market					
Environmental					
Economic incentive					

Finally – MAKE YOUR DECISION and award the winning team the 'prize'.