



**SCHOOL OF COMPUTING AND ENGINEERING SCIENCES  
MASTER OF SCIENCE IN SUSTAINABLE ENERGY TRANSITIONS  
END OF SEMESTER EXAMINATION**

**MSSET 8104: ENERGY POLICY, LAWS AND REGULATIONS**

**DATE: 12<sup>th</sup> January, 2023**

**Time: 2½ Hours**

**Instructions**

1. This examination consists of **FOUR** questions.
2. Answer **Question ONE (COMPULSORY)** and any other **TWO** questions.

**QUESTION ONE**

**(Total: 20 Marks)**

**Case Study 1**

The County of Mamboleo has discovered coal in its region. The County covers 5,000 square Km and has a population of about 3 million residents. The region has a dry climate and as such there is little agricultural viability. Given this background, this region had been severely neglected by the central government and it lacks basic infrastructure such as roads, communication networks, hospitals and adequate schools. The residents of Mamboleo are among the poorest in the country and with little or no formal education and therefore there is very limited skilled human capital. The Governor of Mamboleo has come up with an aggressive plan of developing Mamboleo County and is talking with various stakeholders in view of developing and exploiting the coal which is an important source of energy. However, the Governor is also worried about the exploitation of this mineral as it will require some of the population to be displaced and relocated elsewhere. Also, the residents do not have title deeds to their land as this is considered communal land. The governor has therefore decided to engage various stakeholders so that he can make an informed decision that will be acceptable to all residents and is beneficial to the County and Country at large.

As a policy analyst you have been asked to help the Governor of Mamboleo to make some policy decisions.

*Answer the following questions*

- a. The first step of policy analysis is to critically analyze the existing situation of a country. Explain **three** areas and factors of Mamboleo County that need to be assessed. (3 Marks)
- b. Stakeholder engagement is key for Mamboleo Governor's plan to succeed. Identify **three** stakeholders and for each of these stakeholders, identify **two** benefits and **two** possible threats that might arise from the process of exploiting coal. *Copy the table 1 below for your analysis.* (6 marks)

*Table 1*

	Stakeholder	Interests/benefits	Threats
1			
2			
3			

**Continuation of the case:**

**The following is an extract from Energy Act of 2019**

**PART V— DOWNSTREAM COAL**

94. (1) A licence or permit as the case may be, is required by a person who wishes to carry out the production of energy from coal

(2) A person who wishes to undertake—

(a) electricity generation using coal must have a valid licence issued by the Authority;

107. (1) A person who intends to construct a facility that produces energy using coal shall, before commencing such construction, apply in writing to the Authority for a permit to do so.

114. (1) A person engaged in production of energy utilising coal shall comply with the applicable environmental, health and safety laws.

**PART IX—MISCELLANEOUS PROVISIONS**

**5. ONGOING PROJECTS**

(1) The Cabinet Secretary shall continue to manage ongoing upstream coal activities including exploration and extraction and the Cabinet Secretary responsible for mining shall issue permits and licences for the activities under the relevant mining laws.

**B. FUNCTIONS OF THE COUNTY GOVERNMENTS**

**2. County Energy Regulation**

(c) Regulation and licensing and supply of retail coal products for domestic use.

- c. Assuming that Mamboleo is a county in Kenya's devolved system, discuss the complex web that the county has to navigate in its push to exploit coal in relation to the National Government and the governing Energy Act of 2019. (3 Marks)
- d. From your experience, your advice is that Mamboleo County should consider contracting an Independent Power Producer (IPP) to exploit the coal to the benefit of the County as this is a specialized field and setting up a generation plant is capital intensive. Discuss **three** major Power Purchase Agreement (PPA) issues that must be keenly considered to realize a mutually beneficial and profitable investment between the County and IPP. (3 Marks)
- e. To realize this project, energy risk management, which involves the process of identifying/pinpointing, evaluating, and prioritizing risks associated with uncertainty in the energy markets, must be analyzed and probable ways of risk mitigation and control clearly laid down. This process will be carried out by a prospective IPP in collaboration with the County government of Mamboleo. Identify **two** risk categories and within each category, discuss **two** risk and their mitigation mechanisms. (5 Marks)

**QUESTION TWO**

**(Total: 15 Marks)**

- a. Regulation Impact Assessment (RIA) is a formal and systematic policy tool and decision process used to examine and measure the likely benefits, costs and effects of new or existing regulation. The tools that are used for conducting RIA can either be categorized as qualitative or quantitative. Discuss four major tools for conducting RIA, state whether it is qualitative or quantitative (*type of data*), and explain one advantage & disadvantage each. *Use the template in table 2 to answer the question. (You can use illustrations where necessary)* (10 Marks)

Table 2

	Tool	Type of Data	Advantage	Disadvantage
1				
2				
3				
4				

- b. Highlight **ten** stages of enacting a law in Kenya (5 Marks)

### QUESTION THREE

(Total: 15 Marks)

- a. A Power Purchase Agreement is a legal contract between a privately-owned power producer (seller) and a public sector power purchaser (buyer - Offtaker). Volumes and price for the delivery of electricity in advance is clearly stated in the agreement. Discuss seven steps in PPA process. (7 Marks)
- b. “PPAs are tailored towards leveraging on the expertise and financial strength of the IPPs to drive the growth and development by providing power at agreed favourable and fair rates that benefits both the seller (IPP) and the off-taker and the country at large”. Discuss this statement (*in detail*) with respect to East African governments scenario. (*Use one country for you case analysis e.g. Kenya & use examples where necessary to justify your argument*) (8 Marks)

### QUESTION FOUR

(Total: 15 Marks)

#### Case Study 2

*Read the following extract from Business Daily Newspaper dated Tuesday November 2<sup>nd</sup> 2021 and answer the following questions*

Last week, the High Court in Meru nullified the title deed for the land on which the Lake Turkana Wind Power project sits after establishing that due process was not followed in setting apart the 150,000 acres of community land. The company acquired a 33-year lease for the 150,000 acres to develop a 310MW wind power farm near Loyangalani. The project is on a footprint of 87.5 acres which comprises among others, 365 wind power turbines and a power station with the rest of the acreages acting as a buffer zone for wind generation.

Some members of the community petitioned the High Court saying the project has led to the loss of rangeland, water sources and access. The land is also central to their survival and livelihood as it is their cultural, ancestral and grazing land held under an intergenerational trust for future generations.

But the judges declined to cancel the title deeds, giving the Marsabit County government, the Attorney-General, the Chief Land Registrar and the National Land Commission one year to regularize the process. The court ruled that if the process is not completed by the end of the 12 months, the title deeds for the 310MW power producer will automatically be cancelled and the land will revert to the community.

- a. The alternative dispute resolution (ADR) describes a wide variety of dispute resolution mechanisms that are short of, or alternative to, full-scale court processes. ADR systems may be generally categorized as negotiation, conciliation/mediation, or arbitration systems.
- i. Differentiate these three categories as used in dispute resolution. For each category, discuss the approach and possible outcomes when applied to case study 2 above. (6 Marks)

- ii. As a project manager at Lake Turkana Wind Power project, which dispute resolution mechanism would you advise the project proprietors to adopt and why? (2 Marks)
  - iii. Why was it better in case study 2 for complainants/plaintiff to use ADR to resolve the dispute? Highlight two reasons (1 Mark)
  - iv. In case study 2, it is clear that the plaintiff used the legal means to seek redress. Highlight 4 possible reasons why the complainants decided to choose litigation over arbitration process. (2 Marks)
- b. Discuss four ways of managing risks in energy contracts and show them in a chart. (4 Marks)