

I. Part (Wilts)

1. Task

Describe a classification scheme for natural resources. How do natural resources differ from raw materials? (10 Points)

2. Task

Which new qualities of environmental challenges have led to the emergence of resource efficiency policies? Why is it difficult to describe a sustainable level of resource consumption? (10 Points)

3. Task

What criteria define an efficient mix of market based instruments for resource efficiency? (10 Points)

II. Part (Erdem)

4. Task: Please answer the following questions.

- Please explain the 3 main objectives of energy policy (9 Points)
- Please describe the trade-offs between those and support your answer with examples. (3 Points)
- To which three additional objectives should serve EU-Member countries? (3 Points)
- Please list the determinants of energy policy (3 Points)

5. Task: Please explain 3 of 4 concepts you choose: (4 Points each)

- Carbon lock-in effect
- Ecological Kuznet's curve
- Dutch disease
- Development of demand elasticity for oil since 70s

III. Part (Udalov)

6. Task:

Define a negative external effect. What are the implications of negative externalities? Name two theoretical instruments that can be used in order to internalize a negative externality and explain shortly how they work. (10 Points)

7. Task

Name 3 standard-orientated environmental instruments and evaluate them using ecological efficiency, cost efficiency and dynamic incentive effects. (6 Points)

8. Task

Two firms are ordered by the federal government to reduce their pollution level. The abatement aim is 90 units ($A=90$). The first firm's abatement cost function corresponds to

$$AC_1 = 100 + \frac{8}{2} A_1^2.$$

The second firm's abatement cost function is

$$AC_2 = 100 + 5A_2^2$$

- (1) In order to reach the corresponding abatement aim the regulator introduces the uniform command and control (CAC) regulation. The both firms have to abate $A_1 = A_2 = 45$. Calculate marginal abatement costs in this case for the both companies. Discuss whether the abatement amounts of respective firms are cost efficient or not.
(6 Points)
- (2) The regulator decides to use the individual command and control (CAC) regulation. Calculate the cost efficient abatement of the respective firms.
(8 Points)