Revision (Q & A)

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1. What is green growth and how can it help deliver sustainable development?

- Twenty years after the first Rio Summit ((UNCED) – 1992
- The world continues to face **a twin challenge**:

1) expanding **economic opportunities** for all in the context of a growing global population

2) addressing **environmental pressures** that, if left unaddressed, could undermine our ability to seize these opportunities.

- Green growth is where these **two challenges** meet and it is about exploiting the **opportunities** to realize the two together.
- **Green growth** means fostering **economic growth** and **development** while ensuring that **natural assets** continue to provide the resources and environmental services on which our well-being relies.

2. What does green growth aim to achieve?

- Enhancing productivity
- Boosting investor **confidence**
- Opening up new **markets**
- Contributing to fiscal consolidation
- Reducing risks of negative shocks to growth
- It should be noted that there is no "one-size-fits-all" approach.

3. To main economic principles drive the need for green growth" explain the previous statement.

Two main economic principle:

1. Self-interested buyers and sellers neglect the **external costs** or **benefits** of their actions,

so the market outcome is not efficient.

2. Another principle:
   Governments can sometimes improve **market outcomes.**

In presence of externalities, **public policy** can **improve efficiency**.

Externalities shows that, Humans may misuse of the Earth's productive capacity, which is measured by ecological footprints

4. What are ecological footprints?

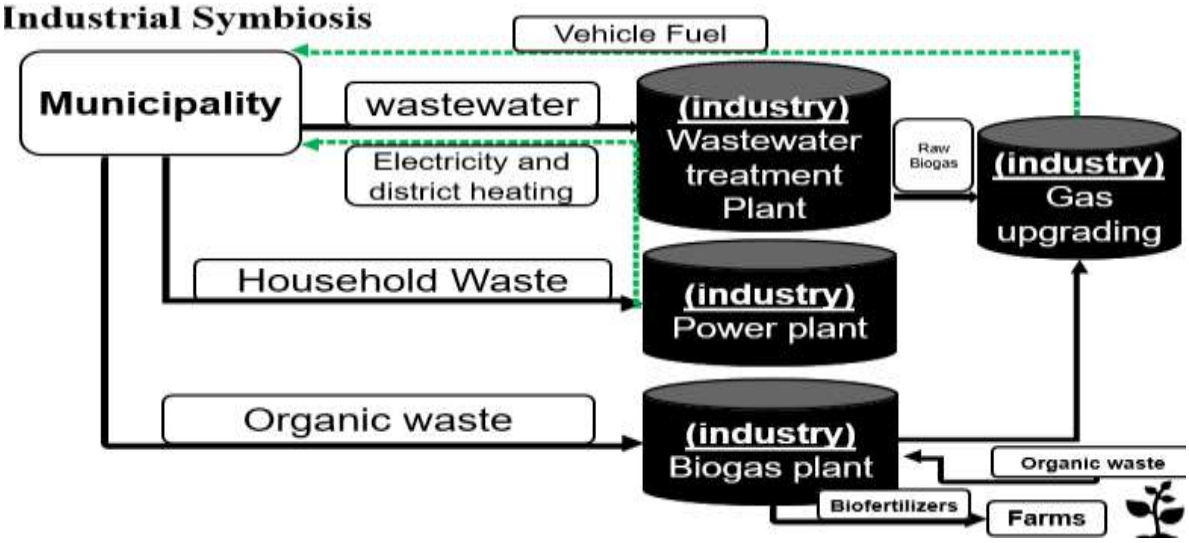
Ecological footprints measure the extent to which humans are using the Earth's **bio-productive capacity,** which is affected to a large extent by the **utilization** of **Industrial Ecology**

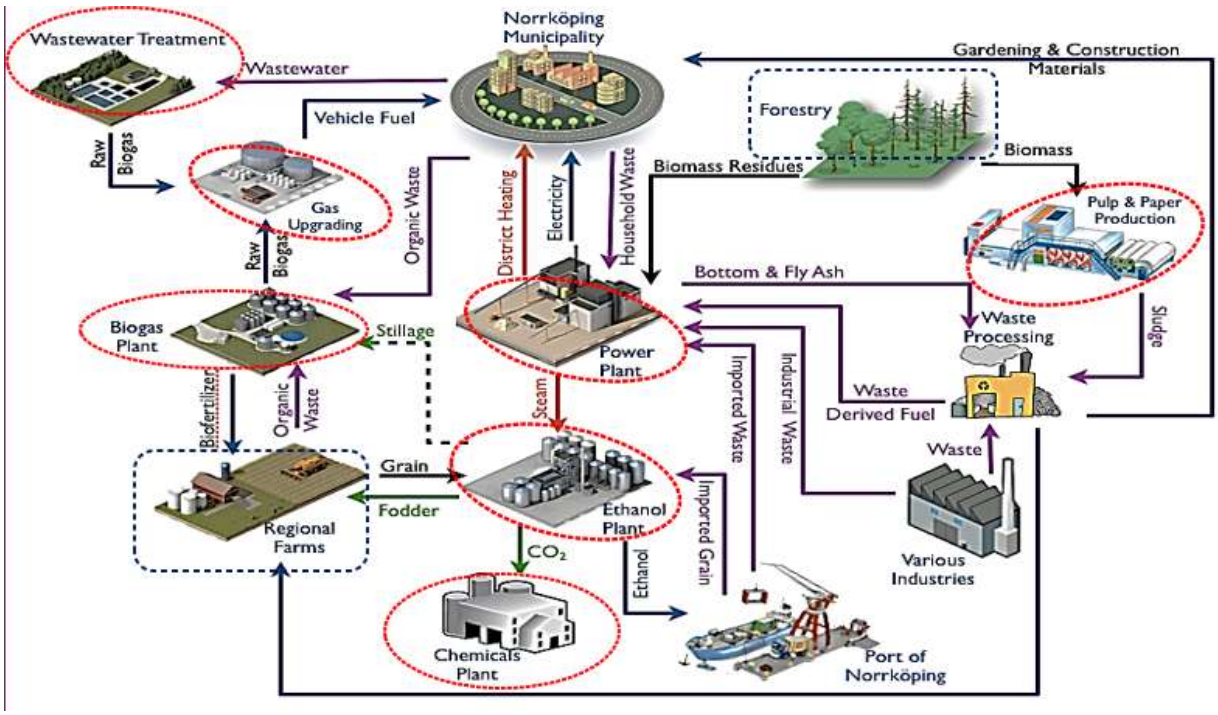
5. What is Industrial Ecology?

- It is a new science that aims to analyze **industrial** systems with the goal of finding ways to minimize their environmental impact.
- Thus, it is mainly about **Industrial Symbiosis**.

6. What is Industrial Symbiosis?

- An association between two or more **industrial** facilities or companies in which **the wastes** or **byproducts** of one become the raw materials for another.
- A **byproduct** is a **secondary** product derived from a production **process**, **manufacturing** process or **chemical** reaction; it is not the primary product or service being produced. A byproduct can be useful and marketable or it can be considered waste.
- The following two figures describe it:

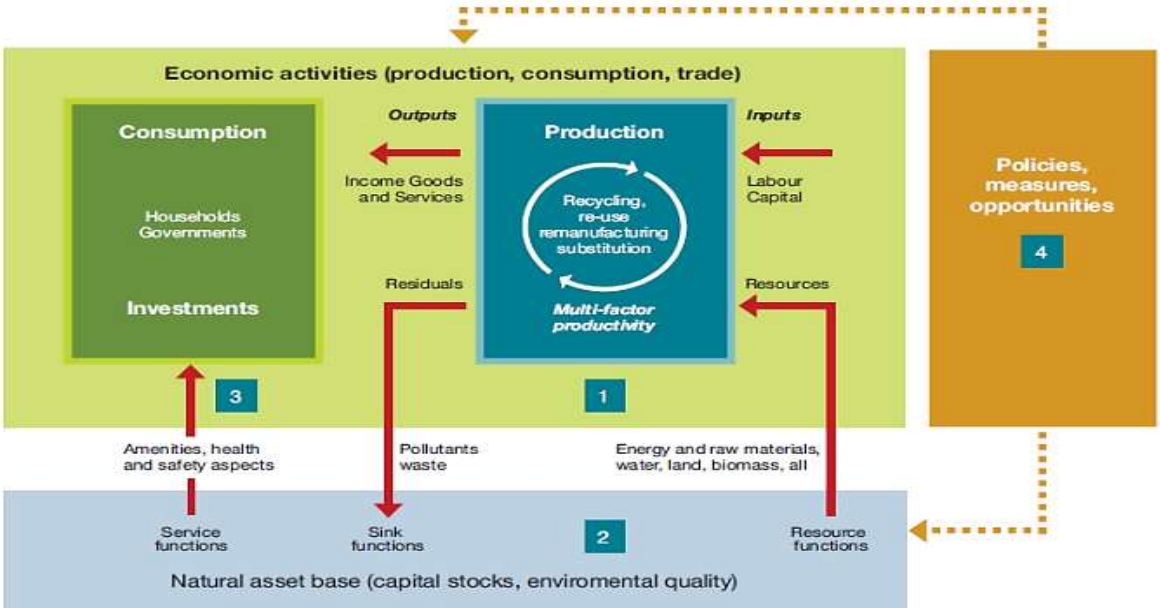




7. What is a Circular economy ??

It is an alternative to a traditional linear **economy** (make, use, dispose) in which we keep resources in use for as long as possible, extract the maximum value from them whilst in use, then recover and regenerate products and materials at the end of each service life.

The following two figures describe it:



8. "Free market can't efficiently provide goods and services" prove the previous statement by providing example about the global energy use.

- **Market** failure (externalities, public goods, etc.)
- **Market** power (monopolies inefficiently restrict production to raise prices)
- **Information** problems (damages uncertain, food safety, environmental quality)

- It has been found predicted that **global energy use will grow by 53 per cent by 2030.** But, in spite of energy efficient and non-fossil fuel power pushing across the world as an alternative, the world is moving into a "dirty, insecure and expensive" energy future!

The solution

- The solution lies not only in the availability of alternative clean fuel, but **policies**.
- It is unless the policies are changed, irrespective of all investments behind producing bio-fuels, **fossil fuels** will account for **83 per cent** of the increase.
- And carbon emissions will grow by 55 per cent in line with energy consumption.
- Recent data has found that it is only between 2000 and 2005; emissions grew four times faster than in the preceding 10 years:
- But,
- Again if policies and guidelines are set, how far can the alternative **energies** satisfy both the consumption demand and the **environmental concerns**?

9. What is Externalities?

When a firm does something that affects the **interests** of another firm without affecting prices.

When an exchange between a buyer and seller has an impact on a third party who is not **part** of the **exchange**.

Negative externalities increase **Social costs**. **Social Costs** are costs that include both the private costs incurred by firms and also **additional external costs** incurred by third parties outside the production process.

An externality implies:

- Social Cost ≠ Individual Cost
- Social Benefit ≠ Individual Benefit

As a result:

- too much of **socially costly goods** are produced
- too little of **socially beneficial goods** are produced.
- Pollution is considered a negative externality e.g., flat-screen TVs causes negative externality

This means: You **cannot** use markets to give people incentives to do the right thing (i.e., the existence of "Market Failure")

10. What is the "optimal" amount of pollution?

Humans can be adversely affected by exposure to various types of pollutants

Pollution control instruments

In thinking about pollution policy, economists are interested in two issues:

- ✓ What should be the target level of pollution?
- ✓ What is the best (cost-effective) method of achieving that level?

What should be the target level of pollution?

- ✓ **Pollution** is bad but **prevention** is costly
- ✓ must **balance benefits** of prevention vs. **costs**.
- ✓ Abatement of pollution is costly for the polluter: Why?
- ✓ Purchase and installation of **pollution control equipment**
- ✓ More radical **changes of the production process** towards cleaner production processes
- ✓ Reduction in the level of production

The Target Level of Pollution

- Identify the social benefits and social costs of pollution

social costs of pollution describes the relationship between pollution and damage ($)

Marginal Cost of Pollution

- ✓ Identifies the extra cost arising from additional pollution (emissions)
- ✓ It is increasing function in level of emissions
- ✓ damages include any type of damage caused
- ✓ Decrease in the value of other activities due to the pollution;
- ✓ Estimated value of health effects.
- ✓ Value of a less beautiful landscape

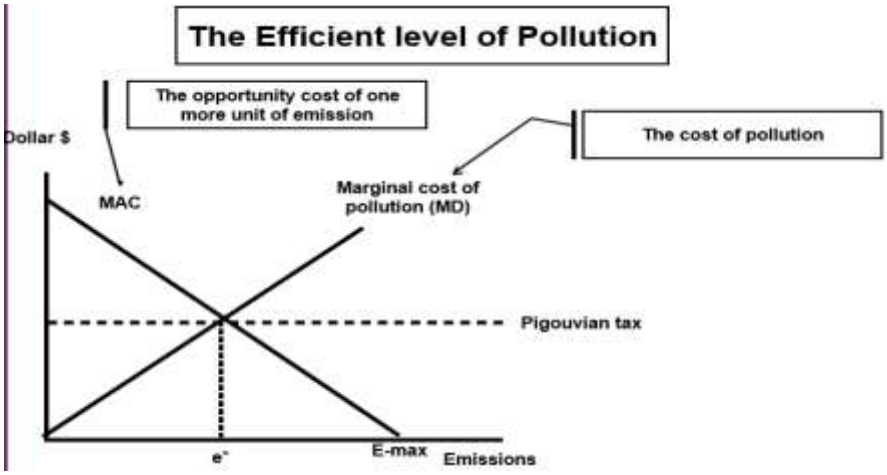
Marginal Abatement Costs (MAC):

Abatement costs → costs of reducing pollution (emissions).

- Increase in a **firm's production costs** resulting from efforts to reduce pollution.
- Costs of a recycling program, increase in costs due to a change in technology, etc.
- Increase in abatement costs caused by lowering emissions (raising abatement) by one unit.

Assume that

- Firm uses the least cost way of lowering emissions
- Firm's objective: maximizing profits
- MAC curve as downward sloping in emissions (**pollution**).
- This implies
- low marginal cost of abatement for the first reductions in emissions.
- MAC rises with more abatement activity.



Efficient level of emissions (abatement):

- Start at the level of emissions with no abatement activity (E-max). In this case, costs are too high (no abatement reductions)
- This is considered as the maximum level of pollution that occurs if the costs or damages of pollution are ignored in the society. If MD >MAC → Emissions should be reduced. In such case, it is required to keep reducing emissions until level where **MD = MAC**
- The resulting level of emissions is e* → the efficient level of emissions.
- Any further reductions cost more than the damages avoided (MD < MAC): → creates a loss to society.
- In general the **greater** the level of **pollution** the greater the level of **damages** and the greater the **abatement costs** required.
- **More pollution** is desirable as long as its **marginal benefits** outweigh its **marginal costs**.
- **Less pollution** is desirable whenever its marginal costs outweigh its marginal benefits.

11. List the regulatory instruments that should be used to achieve the optimal level.

Some Solutions to the Pollution/Externality Problem

Several regulatory and non-regulatory approaches used in environmental policy making

Four general approaches to environmental policy making:

(1) Command-and-control regulation

(2) Market-Based Policies

(3) Hybrid Approaches

(4) Voluntary Initiatives

12. What is Command-and-control regulation?

A prescriptive regulation: a policy that prescribes how much pollution an individual source or plant is allowed to emit and/ or what types of control equipment must be used to meet such requirements.

- ✓ Such a standard is often defined in terms of a source-level emissions rate.
- ✓ Despite the introduction of potentially more cost effective methods for regulating emissions, this type of regulation is still commonly used and is sometimes statutorily required.
- ■ Note that

Regulators can at least partially account for some variability in costs by allowing prescriptive standards to vary according to:

- ✓ Size of the polluting entity,
- ✓ Production processes,
- ✓ Geographic location.

13. What is Market-Based Policies?

By creating an incentive for the private sector to incorporate pollution abatement into production or consumption decisions and to innovate in such a way as to continually search for the least costly method of abatement.

- ✓ This allows firms **more flexibility** than more traditional regulations.
- ✓ Environmental economists generally **favor market-based policies** because they tend to be **least costly**, they place **lower information burden** on the regulator, and they provide incentives for **technological advances**.
- ✓ Four classic market-based approaches:
- ✓ **Marketable Permit Systems** (cap-and-trade systems, project-based trading systems and emissions rate trading systems);
- ✓ Emission taxes;
- ✓ Environmental Subsidies;
- ✓ Tax-subsidy combinations.
- ✓ Notes:
- ✓ Taxes and subsidies are **price-based** while marketable permits are **quantity-based**.

Cap-and-Trade Systems

- ▪ The **cap** on greenhouse gas emissions is a **limit**.
- ▪ **Companies** pay **penalties** if they exceed the cap, which gets stricter over time.
- ▪ The **trade** part is a market for companies to buy and sell **allowances** that permit them to emit only a certain amount.
- ▪ Trading gives companies a strong incentive to save money by cutting emissions.
- ▪ E.g. **The Acid Rain Program** by **EPA** (The program is an implementation of emissions trading that primarily targets **coal-burning power plants**, allowing them to buy and sell emission permits (called "allowances") according to individual needs and costs)
- ▪ Project-Based Trading Systems
- ▪ Plant managers can propose their **own emission standards: tightening them** in places where it is least costly, and **relaxing or even eliminating them** where pollution control costs are high.
- ▪ Emissions Rate Trading Systems
- ▪ The regulatory authority establishes **a performance standard** or **emissions rate**.

- Sources with emission rates below the performance standard can **earn credits** and **sell them to sources** with emission rates above the standard.

14. What are the Hybrid Approaches used to control pollution?

These approaches combine aspects of **command-and-control** and **market-based incentive** policies.

✓ Such approaches are appealing to policy makers because they often combine **the certainty associated with a given emissions standard** with **the flexibility** of allowing firms to pursue the least costly abatement method.

15. What are Voluntary Initiatives (Non-Regulatory Approaches) used to control pollution?

Voluntary programs can use the following **four** general methods to achieve environmental improvements:

(1) Require firms to set specific environmental goals;
(2) Promote firm environmental awareness;
(3) Publicly recognize **firm participation**;
(4) Support **advertising** campaigns that support environmental issues.
(5) Use **labeling** to identify environmentally responsible products.

16. What are the Criteria used for the Selection of Pollution Control Instruments?

- **Cost-effectiveness:** Does the instrument attain the target at least cost?
- **long-run effects:** Does the influence of the instrument strengthen, weaken, or remain cost over time?
- **Dynamic efficiency:** Does the instrument create continual incentives to improve products or production processes in pollution-reducing ways?
- **Ancillary Benefits:** Does the use of the instrument allow for a double dividend to be achieved?
- **Equity:** What implications does the use of an instrument have for the distribution of income or wealth?
- **Dependability:** To what extent can the instrument be relied upon to achieve the target?
- **Flexibility:** Is the instrument capable of being adapted quickly and cheaply as new information arises, as conditions change, or as targets are altered?
- **Costs of Use Under Uncertainty:** How large are the efficiency losses when the instrument is used with incorrect information?
- **Information Requirements:** how much information does the instrument require that the control authority possess, and what are the costs of acquiring it?

17. Describe the EU Emissions Trading System (EU ETS).

Background

The Kyoto Protocol:

✓ it is agreed upon in 1997. The first commitment period (2008–2012).

- ✓ It extends the 1992 UN Framework Convention for Climate Change (UNFCCC),
- ✓ It Set legally-binding GHG reduction targets, or caps, for 37 industrialized countries
- ✓ This led to the need for policy instruments by EU to meet the Kyoto commitments.
- ✓ The first step by EU was in 2000. In 2000 a green paper with some first ideas on the designs of the EU ETS was presented By the European Commission
- ✓ It served as: a basis for numerous stakeholder discussions that helped shaped the EU ETS in the first phases.
- ✓ This led to the adoption of the EU ETS Directive in 2003 and the introduction of the EU ETS in 2005.

The EU Emissions Trading System (EU ETS)

What is the EU ETS?

- The system was first introduced in 2005.
- The EU ETS is a major tool of the European Union in its efforts to meet emissions reductions targets.
- The EU ETS is a 'cap and trade' system.
- It caps the total volume of GHG emissions from installations and aircraft operators→ responsible for around 50% of EU GHG emissions.
- The system allows trading of emission allowances→ so that the total emissions stays within the cap and the least-cost measures can be taken up to reduce emissions.
- The trading approach helps to combat climate change in a cost-effective and economically efficient manner.
- AS, the EU ETS covers more than 11,000 power stations and industrial plants in 31 countries, and flights between airports of participating countries.
- The implementation of the system has been divided up into distinct trading periods over time, known as phases. → 2013-2020 (The current phase of the EU ETS)

EU ETS-Phases

The EU chose a "cap-and-trade" structure: Why?

- ➢ A traditional command-and-control approach may mandate a standard limit per installation,
- ➢ but provides little flexibility to companies
- ➢ (as to where or how emissions reductions take place)
- ➢ A tax does not guarantee that the GHG emissions reduction target will be achieved.
- ➢ and in a multi-national system, agreement would be required across all countries on the right price for carbon.
- ➢ Difficult to determine the "right price" to obtain the cut in emissions required without under- or overcharging companies.
- ➢ cap-and-trade allows a set environmental outcome to be achieved
- ➢ Trading allows companies to determine
- ➢ what the least-cost option is for them to meet a fixed cap

- The carbon price is then set by the market through trading

In addition, cap-and-trade provide:

Certainty about quantity
Cost-effectiveness
Revenue
Minimizing risk to Member State budgets

Certainty about quantity
- Emission Trading directly limits GHG emissions
- by setting a system cap that is designed to ensure compliance with the relevant commitment.
- There will be certainty about the maximum quantity of GHG emissions for the period of time over which system caps are set.
- This is relevant for supporting the EU's international objectives and obligations and achieving environmental goals.

Cost-effectiveness
- Trading reveals the carbon price to meet the desired target.
- The flexibility that trading brings means that all firms face the same carbon price and ensures that emissions are cut where it costs least to do so.

Revenue
- If GHG emissions allowances are auctioned
- this creates a source of revenue for governments
- at least 50% of which should be used to fund measures to tackle climate change in the EU or other Member States.

Minimizing risk to Member State Budgets
- The EU ETS provides certainty to emissions reduction from installations responsible for around 50% of EU emissions.
- This reduces the risk that Member States will need to purchase additional international units (to meet their international commitments under the Kyoto Protocol).

18. How does the EU ETS contribute to meeting the EU's climate policy goals?

- The international community has agreed that global warming should be kept below **a 2ºC increase**, as compared to the temperature in **pre-industrial times.**
- In 2008, the EU set a series of climate and energy targets to be met by 2020 in its pathway towards **a low-carbon competitive economy**, known as the "20-20-20" targets. These are:
  - A reduction in **EU greenhouse gas emissions** of at least 20% below 1990 levels.
  - 20% of **EU energy consumption** to come from renewable resources
  - A 20% reduction in **primary energy use** compared with projected levels, to be achieved by **improving energy efficiency**.

19. How does the EU ETS contribute to a competitive economy?

- EU leaders envisage that the European economy can cut most of its GHG emissions by 2050 through smart, sustainable and inclusive growth.
- The Commission's roadmap for moving to a low-carbon economy by 2050 includes a key role for the EU ETS in promoting decarbonization (reducing its carbon intensity) throughout the European economy.
- The EU ETS contributes to the creation of jobs, generation of green growth and strengthening long-term competitiveness of the European economy by putting a price on carbon. Specifically:
  - It stimulates investments in energy efficiency measures, reducing energy costs and financial risks associated with increasing energy prices
  - It offers an incentive to invest in renewable energy technology, reducing the energy dependency on fossil fuel imports and enhancing energy security
  - It strengthens the EU ambition to decarbonize the European economy, providing a long-term stable policy environment for low carbon investments and clean *technology.*

20. Impact of Climate Change on Arab Countries

According to Millennium Development Goals, "By 2015, cut in half the proportion of people without sustainable access to safe drinking water and sanitation."

- Arab countries, though not primary contributors to atmospheric greenhouse gas emissions, will have to undertake mitigation efforts as part of global action.
- Specific examples in the Arab world are:
  - The commercialization of wind energy in Egypt;
  - Widespread use of solar heating in Palestine, Tunisia, and Morocco;
  - The introduction of compressed natural gas (CNG) as a transport fuel in Egypt;
  - The first concentrated solar power projects in Egypt, Tunisia, Morocco, and Algeria;
  - The first two Arab green building councils in The UAE and Egypt;
  - The massive forestation program in the UAE; Masdar,
  - The first zero-carbon city in Abu Dhabi;
  - The pioneering carbon capture and storage project in Algeria;
  - and Jordan's introduction of duty and tax exemptions to encourage the import of hybrid cars.
- In a particularly promising development, the newly established **International Renewable Energy Agency** (IRENA) has chosen Masdar City in Abu Dhabi as the agency's first headquarters. This is not only very important for the developing world as a whole but will hopefully also lead to significant research and investments into renewable energy in the Arab region.

However, most of these initiatives are fragmented and do not appear to have been implemented as part of a comprehensive policy framework at the national level, let alone at the regional one.

21. Describe the issue of Water and Conflict in the Middle East.

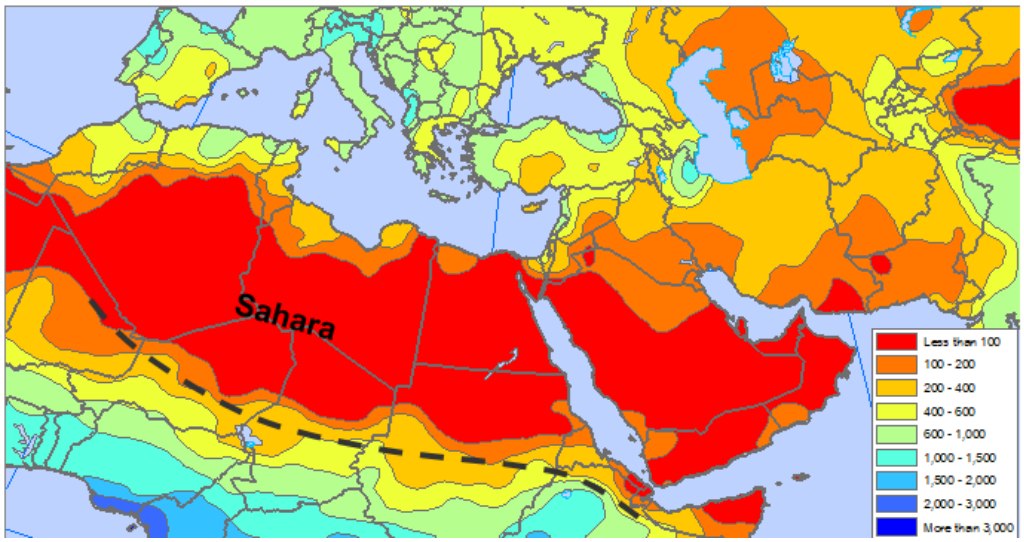
- "The next war in the Middle East will be over water, not politics." (Boutros Boutros-Ghali, Secretary General, United Nations)

- "The only matter that could take Egypt to war again is water." (Anwar Sadat, President of Egypt)
- "Water is the one issue that could drive nations of the region to war." (King Hussein, Jordan)
- "Many of the wars in this century were about oil, but wars of the next century will be about water."(Ismail Serageldin, Vice President, World Bank)
- Southwest Asian countries often get into disputes over their policies on water rights and other natural resources.
- Water rights are agreements about how countries can use the water in a region.
- Water rights often cause political disputes.
- According to the World Bank the amount **one** human needs in order to remain alive and healthy is **100 to 200 litres per day.**
- Less than 3 percent of world's overall water is fresh water, less than 1 percent of the fresh water supply is accessible to humans.
- World Bank: Eleven countries in the ME have annual per capita supplies at or less than 100 cubic meters:
    - Algeria, Egypt, Israel, Jordan, Libya, Morocco, Saudi Arabia, Syria, Tunisia, the United Arab Emirates and Yemen
- Only 3 countries in the Middle East do not need to depend on outside fresh water:
    - Iran, Egypt, and Turkey
- 2/3 of the Middle East depend on water from outside their borders
- Jordan is one of the most water scarce countries in the world.
- More than 90% of population growth will be in developing countries where clean water supplies are low.
- Nine countries in the Middle East use >100% of their renewable water supply (depleting groundwater).
- Egypt depends entirely on the Nile to irrigate crops. Ethopia controls 80% of Nile's flow upstream and plans to divert water for itself. Could be catastrophic for Egypt.
- **Saudi Arabia**, have almost no water.

They are mostly made up of desert.

- **Iran** has areas with access to rivers and areas that are made up of deserts.
- Because water is in short supply in so many parts of Southwest Asia, irrigation has been necessary for those who want to farm and raise animals for market.
- People must live where there is water.
- There are many serious environmental problems in the **Middle East**.
- The water supply is very limited and finding fresh water for farming or drinking is a struggle throughout the region.
- **Israel** has very few fresh water sources and the Sea of Galilee provides its primary supply of drinking water.

North Africa / Middle East, Mean Annual Precipitation (mm)



Water Conflict between Israel and Jordan and Palestinians

- Most countries in the Middle East suffer from an ongoing shortage of water. The situation is felt most acutely in Israel, Jordan and the Palestinian Authority, and is worsening due to the decrease in useable water reserves as a result of pollution and climatic changes, as well as population growth and the rising demand for water.
- Israel, Jordan, and the Palestinians on the West Bank, all depend on many of the same scarce water resources.
- The Jordan River is the major source of water for both Israel and Jordan
- **Early 1950s:** Israel wanted to cultivate additional desert land → built a new pipeline to bring water from the Jordan River to the **Negev Desert**
- Pipelines became the central water supply for Israel but pipeline was a threat to **Jordan's water supply**
- Many people in Jordan could not get the water they needed.
- Border clashes between Jordan and Israel.
- 1967 Israeli – Jordanian War: Israel won and occupied the Golan Heights
- Israel also gained complete control of the Upper Jordan River
- Jordan could not tap as much water from the Jordan River
- Critical shortage of water in Jordan
- Israel also destroyed a dam Jordan was constructing on the **Yarmouk River** during the war
- Diverted large amounts of water from the Yarmouk River into Lake Tiberias
- Obstructed all attempts by Jordan to build a water storage system to improve its water supply
- Israel has the most power, so it has been most effective in claiming water.
- Much Israeli water is also cleaned after it is used, and is then reused.
- Also further tension due to Palestine's claims to share of Jordan river.
- We can observe huge discrepancies between water allocated to Palestinians and Israelis.

Steps Taken

- Jordan and Israel signed a peace treaty
- Both agree to share the Jordan River and provide each other with water
- Both agree to build dams and create storage facilities to hold excess rainwater

22. "Strong Corporate Sustainability can make a company a better company" explain

Decision-making through a Sustainability supports long-term profitability

A big goal of Corporate Sustainability is increased ***transparency.***

Sustainability is largely about managing risk and driving innovation, both of which are top priorities for most corporations

- Attract and retain top talent
- Corporate Sustainability can drive innovation and efficiency and…ultimately, valuation
- 96% of CEOs believe sustainability should be integrated into company strategy and operations.
- 49% of CEOs cite complexity of implementation across functions as the most significant barrier
  to company-wide sustainability

Focus on Corporate Sustainability will drive Shareholder Value: "Sustainability is a company's capacity to prosper in a competitive and changing global business environment by anticipating and managing current and future economic, environmental and social opportunities and risks.

Companies that address these factors through innovation, quality and productivity enhance their ability to generate long-term shareholder value." --Sustainable Asset Management

23. What are the main Corporate Sustainability's Measuring performance?

(1) **Governance:** issues included→ Corporate Governance, Risk Management, Codes of Conduct, Customer Relationship Mgmt, Lobbying, Piracy.
Good governance is expected to produce long-term benefits to shareholders and creditors, principally from the **reduction of risk** driven by the formation of strong internal controls and effective board oversight**.**

(2) Environment: issues included→ Environmental Reporting, Environmental Policy/ Management, Operational Eco-Efficiency, Hazardous Substances.
Higher environmental ratings suggest **operational efficiency**, reducing contingent liability profile by actively managing the firm footprint (e.g., waste and emissions) or positioning to exploit **low-resource revenue** opportunity.

(3) Social: issues included→ Social Reporting, Labor Practices, Human Capital, Talent Attraction & Retention, Citizenship & Philanthropy, Health & Safety, Advertising ethics, Editorial policy, Stakeholder Engagement.
High scores in the social dimension suggest **effective management of human capital, safety** of products and services, or positioning to realize **opportunities from increased social inclusion.**

24. Describe the growing trends in corporate sustainability

Ernst & Young 2013 survey looked at how companies are responding to a wide range of **internal** and **external** forces related to environmental sustainability risks and how well companies are prepared to address them.

Several trends emerged:

1. Inquiries from investors and shareholders are on the rise.
2. The "tone at the top" is key to heightened awareness and preparedness for sustainability risks.
3. Governments and multilateral institutions aren't playing a key role in corporate sustainability agendas.
4. Sustainability concerns now include increased risk and proximity of natural resource shortages.
5. Corporate risk response is not well paired to the scale of sustainability challenges.
6. Integrated reporting is slow to take hold.

25. What is International Integrated Reporting Council (IIRC)?

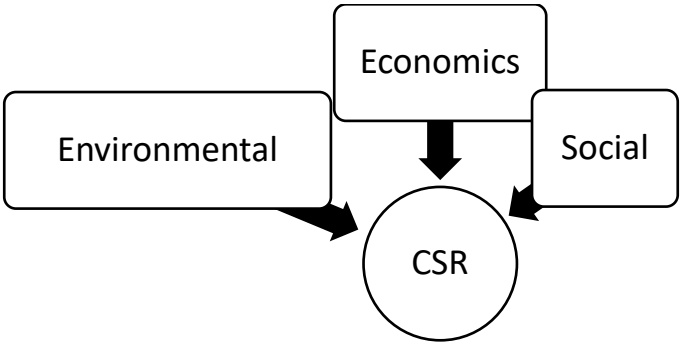
- The International Integrated Reporting Council (IIRC) - a **global coalition** of regulators, investors, companies, standard setters, the accounting profession and NGOs.
- This group shares the view that communication about value creation should be the next step in the evolution of **corporate reporting**
- An integrated report is a concise communication about how an **organization's strategy**, **governance**, **performance** and **prospects**, *in the context of its external environment*, lead to the creation of value in the **short**, **medium** and **long** term.

26. What is Investor Responsibility Research Center Institute (IRRCI)?

- IRRCI was a nonprofit research organization formed following the 2005 sale of IRRC to Institutional Shareholder Services (now MSCI) to act as a catalyst for thought leaders, and to sponsor research on corporate governance and corporate responsibility issues that are important to the linkage of broad societal issues to investment performance.
- IRRCI funded academic and practitioner research that enabled investors, policymakers and other stakeholders to make data-driven decisions.
- IRRCI research covered a wide range of topics of interest to investors, was objective, unbiased and disseminated widely. IRRCi issued 75 research reports, which are available on the Weinberg Center website. Its research has been cited by regulators, lawmakers, academics and leading investors.

27. What is Corporate Social Responsibility?

The voluntary commitment of businesses to include in their corporate practices the eeconomic, ssocial, and eenvironmental criteria / actions, which are above and beyond legislative requirements, and are related with everyone influenced by their activities.



28. What are the benefits from adopting CSR?

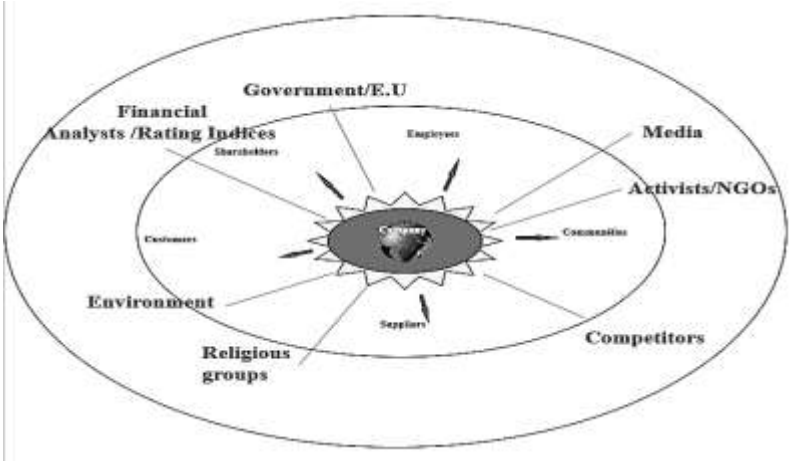
- Enhanced brand value and reputation.
- "Positive Image" to stakeholders.
- "Positive Image" to investors, based on trust relationships with shareholders.
- Introduction to special financial and banking assessment indicators.
- Greater societal recognition.
- Better risk and crisis management.
- Workforce satisfaction.
- Good relations with government and communities.

29. Describe the role of Stakeholders of the Organisation.

Stakeholders are those who are interested in and are affected by the strategy, operation and the overall actions of a company. One primary concern in this regard is to fill in the gap between corporate performance and stakeholder expectation.

Stakeholders Identification

- **Primary stakeholders:** The stakeholders who are critical to the company's existence
- Activities & decisions (directly affect the company or are affected by the company)
- **Secondary Stakeholders:** The Stakeholders who are affected indirectly by the company
- Activities & decisions (indirectly affect the company or are affected by the company)



30. By providing examples, explain the role of public reporting in enhancing corporate sustainability?

The Public Report is suggested to be published regularly showing the commitment (present and future) of the organisations which are meeting the values for sustainable development, in particular:

- Economic effectiveness, transparency and ethical behaviour
- Social accountability
- Environmental care and protection

Examples of organizations support such reports include:

- European Business Ethics Network

EBEN is the largest non-profit organisation for the promotion and advancement of the philosophy and issues related to Business Ethics, Corporate Governance and Corporate Social Responsibility.

- Global Reporting Initiative (GRI)

The mission of the GRI - to develop globally accepted sustainability reporting guidelines through a global, multi-stakeholder process.

- The Global Reporting Initiative (GRI) is a multi-stakeholder process and independent institution whose mission is to develop and disseminate globally applicable Sustainability Reporting Guidelines.
- The Guidelines are for voluntary use by organizations for reporting on the economic, environmental, and social dimensions of their activities, products, and services.
- Started in 1997, GRI became independent in 2002, and is an official collaborating centre of the United Nations Environment Programme (UNEP) and works in cooperation with UN Secretary-General Kofi Annan's Global Compact.

UNDP & Global Compact

The Global Compact is a purely voluntary initiative with two objectives: Mainstream the ten principles in business activities around the world & Catalyse actions in support of UN goals.

31. Describe the importance of the guidelines provided by GRI "the Global Report Initiative in enhancing public disclosure about sustainability.

The guidelines of GRI help in achieving the following features in reporting:

- **Transparency:** Full disclosure of the processes, procedures, and assumptions in report preparation are essential to its credibility.
- **Inclusiveness:** The reporting organization should systematically engage its stakeholders to help focus and continually enhance the quality of its reports
- **Audit ability**: Reported data and information should be recorded, compiled, analyzed, and disclosed in a way that would enable internal auditors or external assurance providers to attest to its reliability.

- **Completeness:** All information that is material to users for assessing the reporting organization's economic, environmental, and social performance should appear in the report in a manner consistent with the declared boundaries, scope, and time period.
- **Relevance:** Relevance is the degree of importance assigned to a particular aspect, indicator, or piece of information, and represents the threshold at which information becomes significant enough to be reported.
- **Sustainability Context**: The reporting organization should seek to place its performance in the larger context of ecological, social, or other limits or constraints, where such context adds significant meaning to the reported information.
- **Accuracy:** The accuracy principle refers to achieving the degree of exactness and low margin of error in reported information necessary for users to make decisions with a high degree of confidence.
- **Neutrality:** Reports should avoid bias in selection and presentation of information and should strive to provide a balanced account of the reporting organization's performance.
- **Comparability:** The reporting organization should maintain consistency in the boundary and scope of its reports, disclose any changes, and re-state previously reported information
- **Clarity:** The reporting organization should remain cognizant of the diverse needs and backgrounds of its stakeholder groups and should make information available in a manner that is responsive to the maximum number of users while still maintaining a suitable level of detail
- **Timeliness:** Reports should provide information on a regular schedule that meets user needs and comports with the nature of the information itself.

32. What are the ten principles described by the Global Compact regarding the firms' corporate sustainability?

These principles can be described as follows:

Human Rights

Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights; and

Principle 2: make sure that they are not complicit in human rights abuses.

- **Labour Standards**

Principle 3: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;

Principle 4: the elimination of all forms of forced and compulsory labour;

Principle 5: the effective abolition of child labour; and

Principle 6: the elimination of discrimination in respect of employment and occupation.

- **Environment**

Principle 7: Businesses should support a precautionary approach to environmental challenges;

Principle 8: undertake initiatives to promote greater environmental responsibility; and

Principle 9: encourage the development and diffusion of environmentally friendly technologies

- **Anti-Corruption**

Principle 10: Businesses should work against all forms of corruption, including extortion and bribery.

33. Describe CSR report suggested requirements.

The Section	The Requirements
Section 1	Statement of the organization mission, vision, and values and its strategy regarding its contribution to sustainable development.
Section 2	Statement from the CEO describing key elements of the report.
Section 3	Organizational profile including: – Name of reporting organization. – Nature of ownership, legal form. – Major products and/or services, including brands if appropriate. – Operational structure of the organization. – Description of major operations, operating companies, subsidiaries, and joint ventures. – Countries in which the organization operations are located. – Nature of market served. – List of stakeholders. – Code of conducts.
Section 4	Contact person(s) for the report, including e-mail and web addresses.
Section 5	Social responsibility (enablers and results)
Section 6	Environmental responsibility (enablers and results)
Section 7	Economic responsibility (enablers and results)
Section 8	List of future objectives and actions the organization is committed to implement regarding each dimension.
Section 9	Appendices and Glossary.

34. What is the importance of identifying the task of financing transport infrastructure?

Transport infrastructure is needed to provide a well-defined set of public services, at the highest-level financing the transport sector, including transport infrastructure expenditures, is fundamentally a sovereign task, which involves determining how much of the government's available (public) resources will be channeled into the transport infrastructure, during a given period, as opposed to other policy priorities. Sovereign tasks are fundamentally the role of government, and cannot be carried out by external parties. The administrative tasks, works and maintenance related tasks, operation related tasks must be financed within the public sector required to oversee transport infrastructure and transport services provision. Governments must also decide how the amount of available public (and potentially private) resources will be distributed among the different tasks, and between transport infrastructure and transport service provision.

35. Describe the administrative tasks associated with providing and operating transport infrastructure.

(a). Establishing high-level policy directions, development and operation strategies related to provision of transport infrastructure and transport related public services.

(b). Definition and organization of the political and administrative framework for decision making.

(c). Allotment of responsibilities.

(d). Needs assessment and demand management.

(e). Definition, selection (evaluation), preparation and approval of multiannual programs and individual transport projects, based on appropriate feasibility studies (including cost-benefit analysis and environmental impact assessment), preferably carried out following standardized (e. g. European Union (EU)) methodologies.

(f). Selection of procurement and delivery methods.

(g). Supervision of works and assurance of performance and quality.

(h). Education and training of transport infrastructure specialists, research & development

(i). Regulation of the activities in the transport sector (permits, licenses, etc.)

36. Describe the Works and maintenance related tasks associated with providing and operating transport infrastructure.

(a). New construction (increasing capacity of the existing transport network by extension, building new elements).

(b). Upgrading the existing transport infrastructure (increasing capacity by widening, strengthening pavements and bridges, improving alignment, etc.).

(c). Major repairs/rehabilitations.

(d). Maintenance.

37. Describe the Operation related tasks associated with providing and operating transport infrastructure.

(a). Traffic survey, regulation and management, ensuring availability and safety.

(b). Survey and assessment of the condition of the transport infrastructure, i. e. quality of services provided.

(c). Establishment and operation of a transport infrastructure data bank.

(d). Asset management and accounting.

(e). Toll collection (if applicable).

38. What are the primary and secondary sources of transport infrastructure financing?

Concerning the resources available for transport infrastructure financing, at the most basic level, there are only **two primary sources of revenue**: taxpayers and transport infrastructure users. Although demand for provision of (more) transport infrastructure and (improved) transport services appear to be growing, the public revenues available for transport spending are becoming more uncertain. Motor fuel and vehicle taxes—which account for approximately two third of public funding for road projects—have not kept pace with inflation in many countries – especially in countries of UNECE Trans European Motorways (TEM) project - and nationally have declined in value and purchasing power. With the cost of fuel remaining high at the pump, motor vehicle fuel tax increases to pay for transportation projects are politically unpopular. Other primary sources of public funding—such as tolls, vehicle registration fees, driver's license fees, special truck license fees, and a host of miscellaneous taxes and fees—can be politically unpopular, making it difficult to derive additional funding from these mechanisms to compensate for the increased need for transport network development.

Secondary, or additional resources may come from:

a) Ancillary services (e.g., renting space to service providers alongside public transport networks);
b) Third party contributions (e.g., land owners' or commercial firms' contributions to having new connecting transport infrastructure and interchanges built).
c) The sale of public land adjacent to the new transport infrastructure development.

39. What are the main two general external sources of financing?

There are many different types of instruments a government, public institution, or any corporate entity may use to finance its expenditure. In general, financing instruments fall into one of two categories - debt or equity. Although there are certain exceptions, debt instruments generally represent fixed obligations to repay a specific amount at a specified date in the future, together with interest. In contrast, equity instruments generally represent ownership interests entitled to dividend payments, when declared, but with no specific right to a return on capital. Public budgets' contributions, subsidies and grants of international organizations can be considered as specific equity instruments stripped from (direct) reimbursement in form of dividend payments or return on capital.

40. Describe Taxation as a common source of financing in transport infrastructure?

The most common financing instrument for transport infrastructure is the government budget, sourced from tax revenues and eventual public borrowing. Policy decisions establish the extent of public funding to provision of transport infrastructure and transport services as opposed to other priorities. This is based on consideration of taxpayers' priorities, often formulated in platforms established by politicians during the electoral process and finalized during discussions at the government level. Direct public financing may also be subject to negotiation between different levels of government. For example, in a federal system (like Germany), some taxes may be collected by the central government, although responsibility for transport infrastructure development, maintenance and operation may be at the state, or regional level. In these instances, central governments distribute appropriate tax revenues to the states

(Länder), or regions. In some cases, allocations are earmarked for specific purposes, and the states may lobby and negotiate for more funds. A similar dynamic may exist between local (municipal) governments and regional, state or central governments, or even between national governments of EU member States and the European Commission.

Resources from the public sector's pool of general revenue are today, and are likely to continue being, a primary means of financing much of most European countries' transport systems. This means that, as governments contemplate the use of alternative financing instruments and mechanisms (including PPP-s), they must also determine the role of public contribution and subsidies in these. Many models commit governments to using general revenues to pay for transport infrastructure over long time periods, and this must be accounted for when the original choice of funding model is made. A primary complaint regarding traditional budget funding is that it does not meet transport infrastructure needs justified by ever growing demand reflected by the observed traffic volume and performance.

Direct public financing is often seen as being inflexible and subject to political considerations. It may, therefore, be difficult to address the lifecycle costs of transport infrastructure and to prioritize accordingly.

41. Describe Non-user funding as a common source of financing in transport infrastructure?

The leasing of space for services related to transport infrastructure use can also provide sources of revenues. These could include, among other elements, restaurants, food outlets, stores, parking lots, motels and service stations, in old or main rail stations or alongside roads. This financing source has considerable potential to provide revenues without necessarily adding "new" costs where the transport infrastructure user or taxpayer is concerned. A further possible source of non-user funding of transport infrastructure development involves taxing increases in property values that a given project may bring about – in other words charging the indirect beneficiary as opposed to the direct user. This creates a motive for the private sector, such as the construction industry or certain business sectors (e.g. supermarkets, warehouses, multimodal terminals, etc.), to pay for having the connecting transport infrastructure built. There are also examples where property developers have paid for parts of the cost of building connecting road infrastructure.

42. Describe Borrowing as a common source of financing in transport infrastructure?

Borrowing means that payment is deferred, and thus that future rather than present taxpayers or transport infrastructure users will pay. Transport infrastructure assets typically have huge construction costs and very long-life spans. This may provide an obvious rationale for borrowing to even out payments among beneficiaries over time.

In most European countries, public borrowing is, however, not specifically linked to spending on transport. Sovereign governments should borrow to smooth national consumption or to undertake public investment projects (among them socio-economically efficient transport infrastructure projects) that they could not finance otherwise.

The ability of a sovereign government to borrow on international credit markets depends on its perceived ability to repay and on the incentives, it will have to do it. In recent years, the

theoretical literature on sovereign borrowing has dealt mainly with the second of these issues: the country's willingness to repay. The question at the heart of the sovereign borrowing literature was why governments have an incentive to repay their debts with foreign creditors within the existing international legal framework. There is no bankruptcy code for sovereign borrowers and lenders cannot take control of a country nor seize a significant amount of its assets in the event of a sovereign default. Economists have offered two main explanations for why governments may want to repay: reputation (exclusion from future credit) and direct sanctions. While sovereign governments' willingness to repay is an important factor, lenders will naturally also be concerned about their ability to repay. Here, both issues of long-term solvency and short-term liquidity must be considered and assessed carefully. Turning to empirical implications, the repudiation models that allow for the existence of lending mostly predict credit rationing in the form of a debt ceiling. This upper bound of the debt a country can incur depends on the costs it must pay in the event of a default. These costs are usually related to the links that a country has with the world (including reputation spillovers): trade and financial linkages such as FDI are specific examples.

43. Describe the criteria for selecting and evaluating funding sources.

Each of the sources of financing has potential applicability in a variety of settings. Whether a source is of potential use in a social and economic environment depends on a variety of factors, many of which are contextual and unique to individual conditions.

Contextual factors requiring review in the search for new funding sources are the following:

(a). State, regional and local governance traditions and philosophies of taxation and public spending,

(b). The types of transport projects and transport services to be funded,

(c). The elements for which funding is being sought (e.g., ongoing transport infrastructure agency development programs or individual transport projects),

(d). The type of source that is desired and that is appropriate (e.g., pay-as-you-go funding or debt financing,

(e). National, regional and local perspectives on the role of transport in the community now and in the future.

A good understanding of these contextual factors is an important prerequisite in the search for enhanced transport infrastructure network development funding. Once contextual factors are understood, all stakeholders must come to a similar understanding of the general advantages and disadvantages of available alternative funding sources as well as an understanding of how these alternatives satisfy a set of widely used criteria. Among the most important of these criteria are the following:

(a). Revenue yield adequacy and stability,

(b). Cost efficiency in the application of sources,

(c). Equity in the application of the alternatives across demographic and income groups as well as jurisdictions involved,

(d). Economic efficiency in balancing „who pays" with „who benefits" from transport infrastructure investments under consideration,

(e). Political and popular acceptability,

(f). Technical feasibility.

Among these criteria, revenue yield is a principal consideration. An enormous amount of effort is required to enact and sustain funding for any public service, including provision of transport infrastructure and transport services.

44. "European models used in providing road network infrastructure is independent from government control." Explain

European models used in providing road network infrastructure is independent from government control over fundamental operational tasks associated with the provision of road networks, including financing. This can be shown from the following examples.

Italy's Autostrade was created in the 1950s as a state-owned enterprise. Some shares were first publicly sold in 1987, then the company was fully privatized in 1999. Autostrade currently holds concessions for 3 408 kilometers of road, or about half of the Italian motorway network, with the other half mostly under concession as well. Tolls are capped, based on an agreement with the government.

Portugal employs a range of different concession mechanisms across its primary motorway network and for key bridges, combining both direct tolling and shadow tolls. The organization responsible for oversight of the network and PPP arrangements has also been devolved into a state-owned company.

Austria presents a different model, whereby the primary road network is managed by a 100per cent publicly owned company. This company, ASFINAG (Motorway and Expressway Financing Corporation), is responsible for construction, upgrading, operation, maintenance and tolling, although the right to set the tolls is retained by the Republic of Austria. ASFINAG does not get any grants from the federal budget; its operating income results exclusively from user fees that are legally tied to expenses in the network. ASFINAG is also making selective use of PPPs for elements of the network.