Call for contributions (WG9)

Outline of ECCAP reports under WG9 for Case Analysis of Ethics of Selected Energy Technologies

Working Group 9 is developing a series of case studies relating to the ethical implications of the adoption and development of different energy technologies. Selected technologies for case studies include wind, solar, fuel cells, algal, and biofuels among others. The preliminary organization of case studies should follow this outline:

1. Current State and Historical Development of the Technology
   1.1 Introduction to the Technology
   1.2 Main Energy Products and Use
   1.3 State of the Art
   1.4 Past Issues in Historical Development
   1.5 Present Concerns
   1.6 Future Hopes/Concerns

2. Environmental Factors/Constraints
   2.1 Land
   2.2 Water
   2.3 Climate
   2.4 Specific Resource Requirements

3. Issues in Research and Development of the Technology
   3.1 Uncertainty
   3.2 Costs
   3.3 Public and Private Sector Investment and Partnerships
   3.4 Scale Up Technology
   3.5 Current Policy Incentives
   3.6 Access to Technology

4. Issues in Plant and Unit Construction
   4.1 Unit or Component Manufacture
   4.2 Initial Cost of Functional Unit of Production
   4.3 Size and Site of Plant/Farm
   4.4 Resource Use
   4.5 Contractor Consultation Costs
   4.6 EIA
   4.7 Stakeholders
   4.8 Sector of Use
   4.9 IPRs
   4.10 Risks

5. Issues in Energy Production and Distribution
   5.1 Resources
   5.1.1 Resource Price and Availability
   5.1.2 Competition (local, national, international)
   5.1.3 Land Use
5.1.4 Water Use
5.2 Waste and Pollution
5.2.1 Waste Products
5.2.2 Types of Pollution in Use
5.2.3 Specific Eco-Waste and Polluting Substances
5.3 Production and Maintenance
5.3.1 Operating Costs
5.3.2 Raw Price of energy
5.3.3 Stakeholders
5.3.4 Constancy of Supply
5.3.5 Sovereignty and Ownership
5.3.6 Risks
5.3.7 Seasonality
5.3.8 Ecological Concerns
5.4 Distribution of Energy
5.4.1 Infrastructure Required
5.4.2 Storage
5.4.3 Transportation Method
5.4.4 Drop-in potential/Usage Infrastructure

6. Decommissioning and Disposal
6.1 Waste Treatment and Disposal
6.2 Plant or Unit Lifespan
6.3 Type of Decommissioning
6.4 Environment Control Requirement
6.5 Toxicity of Products and By-products
6.6 Environmental Clean-up for Land and Water

7. Socio-economic Implications
7.1 Impacts on Population Well-being
7.1.1 Global
7.1.2 Regional
7.1.3 National
7.1.4 Small-scale
7.1.5 Access to Energy/Electricity
7.1.6 Poverty
7.1.7 Migration
7.1.8 Resource-use Related Impacts
7.1.9 Water
7.1.10 Community Consultation
7.2 Security/Conflict and Independence
7.3 Policy Support/Economic Feasibility

8. Analysis of Alternatives
8.1 Direct Substitutions
8.2 Energy Form Alternatives
8.3 Energy Paradigm Shifts
8.4 No Development - Reduction of Per Capita Usage

9. Improvements to Technology
9.1 Energy Inputs
9.2 By-products/co-products
9.3 Life Cycle Assessment
9.4 Complementing Technologies

10. Implementation Options and Financing
10.1 Uncertainty
10.1.1 Proven Technology and Scalability
10.1.2 Future Usefulness
10.2 Overall Energy Efficiency
10.2.1 Energy Return on Energy Invested (EROEI)
10.2.2 Watt/cent Invested
10.2.3 Watt/area Invested
10.2.4 Capacity
10.2.5 Cost/Benefit Analysis
10.3 Financing
10.3.1 Incentives
10.3.2 Taxes
10.3.3 Cap and Trade
10.3.4 Clean Development Mechanism (CDM)

11. Potential for the Technology in Asia-Pacific

12. Conclusions

Please send comments and suggestions of topics for case studies to:

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Reports and Outlines from the working groups (WG) of the UNESCO Ethics and Climate Change in Asia and the Pacific (ECCAP) project (available on http://www.unescobkk.org/rushsap/energyethics/) will be discussed. These papers will continue to be open to review over the coming months, and we seek comments from all levels on these documents.