Guidelines exam POL1003 spring 2019

1. What does realism say about international cooperation over environmental problems?

Students are expected to know the basic assumptions of realism. States are by far the most important actors in an anarchic system in which state survival is the ultimate aim for all states. Due to the lack of an overarching hegemon, states have to rely on self-help to survive, which means maximizing power and through alliances and balance of power securing state survival. In this slightly paranoid system, states are concerned with relative rather than absolute gains, that is, in any process it is the outcome of one's state relative to others which matters, and one should therefore always strive to be relatively better off after a process than before it compared to others. If successful, this would weaken other states vis-à-vis your state hence increasing your chances of survival. All this underlies how realists view the prospects for international cooperation over environmental problems (or any other problems for that sake). Absolute gains are not sufficient for cooperation, one needs to be better off relative to others in order to be incentivized to engage in cooperation (or a powerful state can force you, but then it is not cooperation).

Most students should know that realists are highly skeptical to genuine cooperation over environmental problems over and above that which is self-serving i.e. benefiting one's state more than other states. International cooperation can come about if it is in the interest of very powerful states that can put pressure on other states, sometimes realize collective goods on their own, and sanction cheating. The process of cooperation, or lack thereof, according to realists must be understood by the distribution of power among states and what the interests of these states are. Thus, realists are generally very skeptical towards genuine cooperation based on the wish to solve a common problem, and would rather explain seemingly successful international cooperation over environmental problems by that it was the in the interest of powerful actors. Students that underscore this and point to the role and industrial interests of the US in the Montreal Protocol should be given extra credit for this. Those who point to the unsuccessfulness of international cooperation over reducing GHG-emissions should also be rewarded.

2. What is the tragedy of the commons? When is its application useful and not so useful?

All students should be able to give a rough description of what the tragedy of the commons is (TOTC), and how it is relevant for environmental politics. TOTC is an economics theory by Garrett Hardin, who argues that rational individuals act according to their own narrow self-

interest, and behave contrary to the group's long-term interests by extracting more than collectively optimal from a resource, as this is rational at the individual level. The consequence of this individual behavior at the aggregate level is that common resources are depleted. The most popular example used by Hardin is the idea that when herders are to put their own cattle on the village commons, they recognize that putting an extra sheep on to the field will benefit their self-interest, while the costs in terms of overgrazing are shared among all the peasants that use the commons. This logic makes all peasants put extra cattle on the field, ultimately leading to the depletion of the commons.

"Commons" within the environmental area include all resources that are not regulated by private property or the state. Prominent examples are the atmosphere, oceans, rivers and so on. Suggested mechanisms to control TOTC are privatization or point out a "manager" that allocates the resource which often means national or international institutions. The students who point out that this problem is particularly severe in the climate change debate, should be given extra credit for this. Those who bring in Ostrom's (1990) criticism of the traditional application of the TOTC to local-level overuse of resources where she points out that there are plenty of real-life examples where commons are managed in a sustainable manner, should be given extra credit for this.

Extra credit should also be given to those that point out that the TOTC can be placed within the survivalist discourse/Limits and survival discourse by Dryzek (2013). Those that also connect it to what Adger et al. (2001) define as the Global Environmental Management discourse should be awarded for this.

3. Describe the main features of what Dryzek refers to as the discourse of Prometheanism.

This is covered in Dryzek (2013) chapter 3. An acceptable answer should include that Prometheanism is a discourse who does not see limits to the current economic system, but rather sees the potential for perpetual growth, as human ingenuity is recognized as the only scarce resource. Thus, many environmental problems are not recognized as such, in particular not if they entail the scarcity of a resource. Some Prometheans, most notably Lomborg, recognize anthropogenic climate change and suggests technological fixes to this, but without these measures harming economic activity. Good students will also mention that Lomberg is criticized for downplaying the urgency of climate change and to what extent select renewable energy technologies such as wind and solar will provide a solution, and are together with several other Prometheans, in favor of geo-engineering.

Few if any changes in lifestyles or economic systems should be undertaken, Prometheans are committed to economic growth. Good answers should point out that neither reformist nor radical changes to the existing socio-economic system applies particularly well to much Prometheanism, as the discourse simply sees very few environmental problems to solve and that the current liberal capitalist system should continue, arguably with an even freer market (never change a winning team!). This can be misunderstood as Prometheanism is by Dryzek placed in the same corner of discourses as the discourse of Limits and Survival (which is seen as prosaic and radical) – but these are attributes of LAS, not of Prometheanism which is a response to and heavy critique of LAS. Prometheanism sees no reasons for change to the existing system and therefore cannot be radical. Put differently, had there been no LAS or other environmental concerns about the existing liberal capitalist system, there would arguably have been no Promethean discourse to defend and justify the established system either.

Answers which hold that Prometheanism is prosaic and radical would not be punished for this, however, as this can be quite confusing from Dryzek's book, but those who argue well for how Prometheanism is a response to the LAS' attack on the economic growth paradigm and by this outline how Prometheanism see no need for structural change, should be given extra credit for this as this demonstrates maturity. Prometheans have full trust in the currently dominant free-market capitalist socio-economic system as it allows human ingenuity to flourish, and it is therefore prosaic – it does not see any reason for changing to a qualitatively different system. Good answers should also say briefly that Prometheanism must be seen as a response to rising environmental concerns in general, and survivalism in particular – the rise of Limits and Survival 'meant that Promethean discourse had to be articulated and defended, rather than just taken for granted' (Dryzek 2013:53). In other words, the ideology of the status quo had to be made explicit.

Students could also elaborate on that:

- The basic entities of the discourse are: That nature only exists as brute matter to be utilized for human wellbeing; (and therefore) ecosystems are rarely acknowledged; markets and human ingenuity can overcome any shortages through the price mechanism and technological innovation.
- Assumptions of the discourse are that: There is a hierarchy placing humans above everything else; that there is constant competition between humans in the market.
- Agents and motives of the discourse are: All humans, which are seen as motivated by their material self-interest.
- Common metaphors are: Mechanistic metaphors, trend.

Extra credit should also be awarded to those that refer to economics as a discipline which has had substantial influence on the way the discourse is framed as the Promethean response to Survivalism was largely led - and thus framed – by economists. Good answers will also say that the discourse have had quite some impact in that it fits hand in glove with the neo-liberal

'growth forever' paradigm, in particular in certain US presidencies (Reagan, Bush jr.) with a notable impact on US discussions on whether climate change is anthropogenic or not.

4. What is net negative emissions?

All that get credit from this should say something along the definition of Fuss et al. (2014: 850), that net negative CO2 emissions is "the deliberate removal of CO2 from the atmosphere by human intervention". To get average credits for this, students should provide some overview of some of the most prominent examples of this, in particular Bioenergy with Carbon Capture and Storage (BECCS) which assumes the use of carbon neutral bioenergy (the same amount of GHG-emissions is sequestered by biomass regrowth as is burned generating energy) with the additional aspect of the emissions from the burning of biomass being captured and stored in geological or ocean repositories. Those who add that this also provide much-needed energy should be given extra credit for this. Other ways to do this is through afforestation and reforestation, and more into the future, direct air capture and increased soil carbon storage. The very best students will point to that BECCS is particularly popular since it in contrast to afforestation and increased soil carbon storage is not associated with a saturation of CO2 removal over time and that it is much less vulnerable to disturbance of the carbon stocks. Those who give further information on the heavy reliance of the use of Net Negative Emissions in most Integrated Assessment Models of the Intergovernmental Panel on Climate Change (IPCC) scenarios that are consistent with reaching the 2◦C target by more than 50% chance, should be given extra credit for this.

The very best students will then go on to criticize the hazard of relying so heavily on technology which is mostly at the theoretical or experimental stage and which only has a very few examples of being rolled out in practice. Those who point out that BECCS is (i) still under development and the technology can therefore not be taken for granted; (ii) that it is currently very costly and that it is not certain that technological advances will make it cost-effective in the future; and (iii) that land-requirements and other social and political aspects may also serve as stumbling blocks to its successful implementation should be awarded for this.

5. How could an abundance of oil hinder economic growth?

This question largely builds on Karl (2005) and the concept of 'resource curse' narrowly defined as ' the inverse relationship between high natural resource dependence and economic growth rates' (Karl 2005:23). Students should be able to say that lower than expected economic growth is one of several aspects of what is more broadly referred to as 'the resource curse', among which 'Dutch disease' figures prominently. Dutch disease is according to Karl (ibid:23f): '…a

phenomenon in which the oil sector [or another high value commodity] drives up the exchange rate of the local currency, rendering other exports noncompetitive. In effect, oil exports crowd out other promising export sectors, especially agriculture and manufacturing, making economic diversification particularly difficult. In response, policymakers adopt strong protectionist policies in order to sustain increasingly noncompetitive economic activities, placing the funding burden on the oil sector. As agriculture and manufacturing become dependent on these transfers from oil, dependence on petroleum is reinforced, removing incentives for a more efficient use of capital. Over time, it can result in a permanent loss of competitiveness.'

Most students should be able to say that mineral wealth drives up the exchange rate thus making other export sectors noncompetitive. Students that point out the subsequent tendency to of mineral-rich states to build up protective barriers to the non-mineral sectors thus rendering these even less competitive, should be given extra credit. The same should be awarded to those who point out that absent tariffs, imports also tend to become cheaper and therefore kill domestic industry. Some will also point to price volatility (in particular for oil) which reduces the inclination to invest in the economy. Some will also point to the drain of labor and capital to the booming sector, thus depriving the lagging sector of much needed labor and capital.

Those who also bring in that oil can contribute to political instability, which in turn hampers economic development, should be awarded for this.

6. Explain the two energy security concepts security of supply and security of demand.

To answer this question, the students should have read in particular Fermann (2009). Most students should be able to say that security of supply is the concern of energy importing countries and entails whether it will have sufficient amount of energy delivered without interruption. Security of demand entails the concern of energy-exporting countries of whether they will have a secure and stable export market for their energy resources at high enough prices to finance their energy sector. Most students should also know that security of supply is generally speaking of more importance than security of supply, as energy is internationally speaking a scarce resource because industrialized countries are primarily energy importers. Moreover, good answers should also say that for security of supply uninterrupted and sufficient supply is more important than the price level, since it is more costly to interrupt economic activities than to pay more for energy. Put, differently, the price elasticity for energy is high. Good answers should also address the need for diversification in terms of energy sources and trading partners, and that supply security is also strengthened with emergency stocks which the OECD has enforced after the 1973 oil-shock. The best answers should also point to that all parties are generally interested in stability and predictability of energy trade.

Good students can illustrate both concepts by using the EU-Russian relations as examples of security of supply (EU) and security of demand (Russia, Norway).

7. How does the food availability decline hypothesis explain famine, and what are its main weaknesses?

The students have read Sen's article 'Famines' (1980). Most students should know that the entitlement approach to explain famines is a reaction to and rejection of the so-called Food Availability Decline (hereafter FAD) explanation of famines which states that famines are basically a product of less food per capita. Thus in the FAD-view, famine is seen as caused by an absolute shortage of food, by and large attributable to harvest failure in the area experiencing subsequent famine. This explanation is therefore quite local, in which market forces do not have much of a role.

Although Sen does not deny the potential contributory role of harvest failure, the entitlement approach asks the question of whether or not a person, household, or group can get hold on food or not, by legal means. Thus absolute shortage in food production (FAD) is seen as only one of many causes of people not having enough food and hence causing famine, and its role is only indirect. Most students should be able to point to Sen's seminal insight: there can be famine without any substantial FAD. More advanced answers will show how the entitlement approach can explain different forms of famines, more specifically slump and bust famines. The best answers could also go into detail explaining famines caused by direct entitlement failure (failure of food production for farmers causing lack of income to purchase food as well as less direct access to food) versus famines caused by trade entitlement failure (famines affecting groups not producing food).

Students that point out the policy lesson from the FAD-approach: providing food would be according to the FAD explanation of famine be sufficient to end the famine. The best answers will counter this with the insight from the entitlement approach that you cannot only provide food relief, but you must also make sure that needy people can afford the exchange to get hold of food should be credited. Extra credit should be awarded to those who see the entitlement approach as an approach which integrates the workings of market mechanisms – thus a well-functioning market can have devastating famines, you can have counter-intuitive processes such as food-counter movements should be credited.

8. Discuss whether or not China is in the process of undergoing a structural change away from fossil fuels towards renewable energy.

Discussion points (there are many of these, and the student would not be expected to remember all of these, but here are a few):

1) There is a clear increase in the capacity of renewable energy. China leads the world (by far) in both wind and solar installations. It also has the (by far) largest solar industry in the world, with world market shares of 60%+.
2) Coal as a percentage of both electricity and energy is decreasing quite fast, year by year.
3) The communist party has strongly endorsed pro-renewable policies. Renewable energy are singled out as industries of the future, supposed to replace the "old pillar industries" of the past, such as coal.
    a. Renewable energy has priority access by law. (I.e., the law mandates that the power companies accept renewable energy to the grid and pay for the connection if it means that the more gridlines have to be built.)
4) The communist party has arrested local coal power bosses for corruption and seems to be trying to crack down on coal.
5) Is it about structural change or just about economic growth?
    a. The renewable share of electricity is no higher than the world average, and has increased at roughly the same pace as the world average (2017 figures that were presented in class: 6.6%. Against a world average of 7.5%. 2010 figures: China 1.2% World: 1.7-2%)) [New figures since then: 2018, China = 7.8%]
6) Structural problems with Chinese renewables
    a. Chinese wind power is far less efficient than for instance US wind power
    b. Curtailment, mainly from wind, but lately also solar.
    c. Lack of a grid network that is strong enough to accept large amounts of renewable energy produced in sparsely populated provinces in the west and transported large distances to the eastern seaboard, where the main cities are.
7) While coal is decreasing rather rapidly in relative terms (share of electricity, share of total energy), in absolute figures coal consumption and production was actually higher in 2017 than in 2010 and coal capacity was increased by roughly 200MW (about as much as total installations of either Chinese solar or wind). Thus, maybe we can speak of an ongoing structural change in relative terms, whereas in absolute terms, the coal industry is very much fighting to stay alive.
    a. In doing so, it has strong supporters: In the main coal power provinces coal power bosses enjoy close relationships with local party bosses, providing coal with preferential treatment, even if the law says that renewables has priority access.
    b. Coal is a strong vested interest. It is fought by the central government in Beijing, but often not by local party bosses. The central government cracked down on new coal installations, but only a few years later, most of these cancelled installations were in fact in the process of being installed again.

8) There may be a war on coal, but there is no war on oil or on gas. Thus, if China is undergoing a structural change, it is away from coal, and not from fossil fuels in general.