

ECOLOGY, LOW-CARBON SOCIETY AND POLITICS

Abstract. *The developmental concept of a “Low-Carbon Society” (LCS) is an operational concept, on which the governments of developed countries are building their way out of environmental and technological-developmental quandaries. The concept itself has not been subject to any significant reflection and criticism in expert circles and has quietly taken up residence in public policy. The central role of technological development as a precondition for new momentum of the economic cycle needs to be problematized. This concept also clearly establishes a hierarchy among different sciences and technologies, and reserves only a secondary role for social sciences, a role in which their production of knowledge must be embedded into the reproduction of the existing political-economic order.*

Keywords: *ecology, development, science, low-carbon society, glocalisation, capitalist mode of production, critical political ecology*

Introduction

In February 2014, the Ministry of Agriculture and the Environment of the Republic of Slovenia presented a proposal for an operational programme to reduce greenhouse gas emissions¹ by the year 2020 to the public. The proposal includes measures in the energy sector (the energy rehabilitation of buildings), transport, agriculture and waste management, i.e. those activities which emit a considerable proportion of greenhouse gases in Slovenia and which are not included in the trading system of greenhouse gas emissions. The main objective of the programme is that greenhouse gas emissions do not increase by more than 4 percent by 2020 in comparison with the year 2005. It is obvious that the executive public authority has been striving to achieve the Kyoto protocol agreement targets for many years. The data show that emissions from transport increased by 28.7 percent, while emissions from fuels in households and service industries decreased by 24.4 percent

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¹ Greenhouse gases are carbon dioxide, methane, nitrous oxide, fluorinated hydrocarbons, perfluorocarbons and sulphur hexafluoride.

and in agriculture by 5.1 percent over the period 2005–2011. Emissions from individual sectors which do not fall in the trading system changed significantly in 2011. In the period after 2005, transport has become the main source of greenhouse gas emissions in Slovenia.

Naturally, this change needed to be reflected in the new programme. The government therefore want to take measures in the fields of the energy rehabilitation of buildings, of transport, agriculture and waste management. The main aim is to develop eco-industries, which will bring stable and internationally competitive green jobs with a high added value and contribute to reducing greenhouse gas emissions in the aforementioned sectors. In this context, Slovenia will also stimulate the research and development of “green technologies”.

Climate Change and the Concept of the Low-Carbon Society

The reality of man-made climate change² and its potentially long-term damaging impact on society and economy are now becoming widely accepted. There is a growing scientific and political consensus that significant action will be needed to manage the transition to a low-carbon society (LCS) or low-fossil-fuel economy (LFFE)³. The main goals are to redesign institutional networks and establish a low-carbon economy (LCE), thus avoiding catastrophic climate change and creating a more advanced, zero-carbon society and a renewable energy economy. It seems that the global transition towards a low-carbon economy has become an imperative. Many countries have promised to cut their emissions by 100 percent by offsetting emissions instead of ceasing all emissions (carbon neutrality). The concept of low-carbon economy integrates all aspects of itself (from manufacturing, agriculture and transportation to power-generation, etc.) around technologies that produce energy and materials with low greenhouse gas (GHG) emission (green technologies).

Apart from modelling, recording and gathering data on different types of climate changes, running simulations and considering alternatives, ecologists-scientists have been creating scientific bases and proposing several measures for the reduction of undesirable trends and risks arising from climate change. This is a very broad subject, so we will limit ourselves to presenting only the development model of the low-carbon society proposed by Geels in 2002. In his model of the transition to a low-carbon society, technology plays a central role, offering new opportunities for new market niches.

² Due to anthropogenic (human) activity, greenhouse gas (GHG) emissions are either causing climate change (global warming) or making climate change worse.

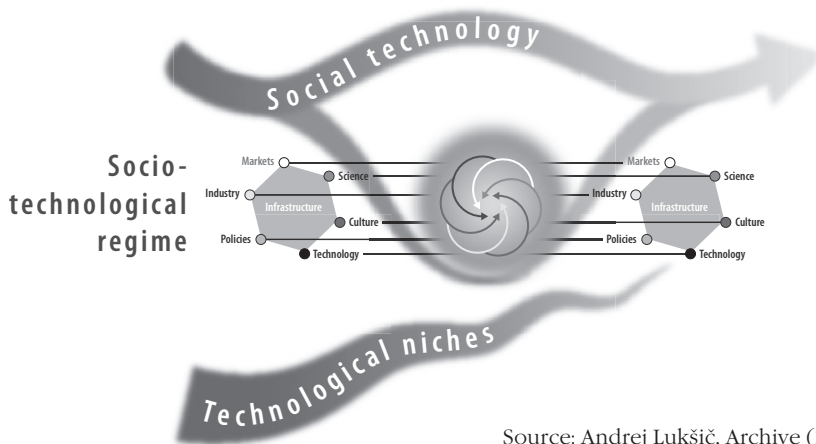
³ An economy that has a minimal output of greenhouse gas (GHG) emissions into the environment (referring mainly to the greenhouse gas carbon dioxide).

Nevertheless, the social process of change includes two other factors:

1. sociotechnological regime, which includes culture, politics, science, industry, markets and consumers and
2. social technology, which by raising environmental awareness exerts pressure on the aforementioned factors and enters a process of constant changing and self-changing.

All three levels together allow the changes in society which lead to a low-carbon society. The fact that technology is placed into the very core of the transition from the existing society to a low-carbon society has significant implications for science as well, which Geels's model also takes into account.

Picture 1: GEELS'S MODEL



Source: Andrej Lukšič, Archive (2008)

The pressure of environmental awareness and new findings in science and technology are changing the notion of the natural and technical world and opening up fresh opportunities for new inventions and innovations. To aid the implementation of technological innovations, the social sciences and humanities have to discover pertinent social blockades and obstacles and prepare proposals for overcoming them. The entire spectrum of science disciplines is thus functionally involved in solving the existential hardships of humankind caused by climate change, by being partly instrumentalized by politics and partly by capital. The hierarchy between the sciences is clearly set: technical knowledge and the sciences are a prerequisite for the development of new technologies, while the human and social sciences, on the other hand, are needed for their implementation, by eliminating obstacles on the way. It seems that new low-carbon technologies are the best solution to environmental problems, especially regarding climate change, which means that they are in fact the saviours of the world.

Imaginary of the World and Environmental Problems

Since the seventies, various top experts, Nobel Prize winners and other scholars have been presenting their own expert views and suggesting “simplified” solutions for environmental problems to the global public. Environmental problem solving at the local, regional, and at the global level is no longer possible without the political action of public authorities (and their integration at various levels), without the intensive involvement of experts in various disciplines, without the environmentally aware public and consumers, various green movements and civic initiatives and without NGOs and green capital. There seem to be no structural or systemic conflicts between these actors, the differences between them appear mainly at the level of strategies, tactics, and collective or personal views.

In the last few decades, scientists in various disciplines have significantly contributed to new discoveries concerning the laws of nature, society and man. These findings have not remained confined to scientific circles. Individuals (as consumers, citizens, workers) have been faced with new technologies and techniques, which entered their world and so radically changed their lives that a life without constant advancement in technology no longer seems possible. The effects of the use of various technologies in the economy and in the “world of life” have on the one hand been desired, yet unwanted on the other, especially regarding the environment, which translates into the “necessary conditions for our existence”. We should be particularly concerned about the effects that are caused by long-term processes, which escape our daily attention and are by their nature irreversible; this means that the “necessary conditions for existence” gradually change into the conditions which will not support life or the existing life forms. The detection of these effects is the task of the sciences and their findings should have a place in the media and in civil society. Political actors intervene at both levels: at the level of policy and at the level of polity. This means that, on the one hand, they react to the changed imaginary of the world, and on the other hand, they try to establish regulatory and financial conditions for two contradictory processes, for scientific and technological development, and the elimination of undesirable, especially irreversible effects on the living conditions, which radically change the “necessary conditions for existence” in certain areas, or on the planet as a whole.

In these efforts, political actors seek shelter under the umbrella of science and science has usually offered them an imaginary of a new world, on the basis of which political actors create their visions and strategies for social development, and new technical-technological solutions for politically articulated practical problems, which are then transformed into different conceptual solutions and policies. While environmental problems were for centuries reduced to the local, regional, and the national and international

levels, we talk nowadays about global problems, about the global change of “natural living conditions”.

Environmental problems which were limited to a certain area were dealt with in science and politics only within the national borders, rarely at the interstate level. The environmental problems of global dimension were not immediately recognized as the problems which should be dealt with by humankind as a whole. The weight of this burden lies on the shoulders of today's generations, which will leave better or worse (perhaps even impossible) living conditions behind as their heritage for future generations. Environmental issues have become global as much as local, and the newly coined term “glocalisation”⁴ testifies to this new phenomenon and to the understanding of this phenomenon. In the new circumstances, science and politics were forced to “glocalise” themselves. How does science respond to these new challenges, and how do politics?

Development of ecology as a science

The science which has some conceptual solutions for environmental problems is ecology. With good conceptual origins, ecology became a total science, and was as such able to conceptualize global environmental problems. Naturally, ecology came to this conceptualisation gradually.

Ecology as a natural science appeared less than 150 years ago, more specifically in 1868, when German biologist Ernest Haeckel suggested that one part of zoology should be called so. He made an important conceptual shift: from the old examination of individual animal species *ad abstractum* to the study of interactions between the species as such and the environment in which a certain species lives. Ecology upgraded Haeckel's concept and abandoned Haeckel's original assumptions, which introduced a specified hierarchy in the animal world, based on the value scale, e.g. animal species ranked higher than plants, macro-organisms higher than microorganisms, etc. Ecology also abandoned his restrictive approach and focused on the study of ecosystems as a whole. In this way, ecology increased its complexity. However, its conceptual development was not yet finished.

A further, even more fatal, conceptual shift in ecology was made when ecology included human as a special “species” in its study and thus became a controversial discipline from different perspectives. When ecology involved the interaction between man and the environment, or the subject “man in the ecosystem”, it ceased to exist as a mere natural science; it also became a social science, i.e. a hybrid discipline, with all the conceptual, theoretical and methodological problems brought by such a reconceptualization.

⁴ *Glocalisation means “Think Globally, Act Locally”.*

Ecology has become an integrative discipline, which is inclined to involve new disciplines. Ecology, as a social science, received another dimension, which it, as a natural science, did not have before. In the early seventies, ecology became prognostic; it started answering questions about the future (Enzensberger, 1985: 98) and thus reassuring people. Ecology in this new version became a “sociologically and futurologically deformed” natural science. Ecology also needs to deal with itself, its own problems and issues arising from its totality and futurology. Pragmatic resolving of outstanding issues (ecology does not waive such an approach even today) seems to be an expression of theoretical helplessness and the opportunistic acceptance of the status quo in ecology itself. The impression is that ecology, which is gaining public attention and political power, is satisfied with itself and its role.

Main Ecological (Hypo)Thesis

In the seventies, ecology, a redesigned science, forged its way from the periphery to the forefront of expert and public attention as an important synthetic discipline. Its ascent was assisted by its main thesis, which Enzensberger formulated as follows: Industrialised societies on Earth produce ecological contradictions, which will in the near future necessarily lead to their own ruin (Enzensberger, 1986: 99). The statement referred to the future and is therefore hypothetical as well as prognostic. Both dimensions of the thesis attracted the attention of the mass media, as they opened the door for different (catastrophic and other speculative) writing about what will happen to human society in the near future. Nonetheless, the describing of all possible types of disasters was no longer based on simplified linear argumentation, because the widespread ecological perception of the causes of possible collapse of human society does not allow that kind of reductionism.

There are more possible reasons for the potential collapse of human society. As it turns out, the limitation of using measures which cover only one factor might still cause the others to evade control. Policy measures for the prevention of the ecological crisis can therefore not be designed in a linear and monocausal way. Partial measures can lead to a chain reaction of adverse effects in other factors and may further deepen the ecological crisis. It seems that we are today still committed to this type of conceptualization of policies, and the adopted measures therefore do not have positive synergistic effects on the ecological crisis. According to Enzensberger, the synergistic factors of the ecological crisis are:

- Industrialisation leads to the growth of the world population, which results in increasing material demands of this growing population. The policy of international aid for underdeveloped countries, developed humanitarian aid systems, etc., fight against this trend.

- The industrial process is based on non-renewable energy resources (fossil fuels), which will eventually be exhausted. Energy policies are defying this trend with the concept of negawatts, energy efficiency, smart grids, renewable energy resources, etc.
- The industrial process depends on the mineral raw materials (metals), which are also non-renewable and will be exhausted over time. Humanity has been fighting against this shortage with the recycling policies.
- The industrial process requires a lot of water, and since watercourses do not satisfy the demands, ground water is pumped and used. There are at least two problems on the horizon: disturbance of the water cycle and climate change. Humankind fights against this trend by developing and implementing climate change policies, drinking water policies, wastewater treatment policies, closed water cycle policies (industrial water recycling), policies on privatising water resources, etc.
- Food production is limited and cannot be increased indefinitely. These trends are counteracted by alternative food production policies (from organic farming to the revival of gardening), irrigation policies, food self-sufficiency policies, policies on genetic engineering in agriculture, research policies (the development of new pesticides and fertilizers), etc.

Apart from the factors, which are directly involved in the industrial and agricultural processes, there is also a whole set of different types of environmental "pollution". According to Enzensberger (1986: 101), "environmental pollution" includes psychological and heat pollution, and we can add light pollution as well. According to the second law of thermodynamics⁵, heat "pollution" is present in all energy-change processes. Naturally, this law has significant implications for the understanding of the rising temperatures on Earth, which is also related to climate change. Between nature and human society there are disturbances in equilibrium, dysfunctions in material exchange, which originate in the industrial and agricultural processes. Due to the imbalanced exchange of substances, the atmosphere is changing as well: smog, climate changes, changes in the oceans, rivers, glaciers, forests, etc.

The intertwining of the effects of different types of material exchanges leads to complex imbalances. Any partial policy measures which target an isolated imbalance of exchanging substances fail. The policies which aim at balancing material exchanges are not guided only by the prevention, restriction, substitution, etc., of harmful substances in nature, they understand material exchange more as a cyclic movement, which includes selection processes and recycling, incineration, composting, establishing closed

⁵ The second law of thermodynamics (entropy) is criticised by Andrej Detela (2014), who has developed a new paradigm named "syntropy".

circles, cleaning, etc. Undesirable side effects and their procedural complexity require a change in the way we understand them (a new conceptualisation, new paradigms, etc.). Consequently, political actions and measures should change as well.

While all this is related to the first part of the basic thesis of ecology, we will now focus on the second part of it, the prognostic dimension of the hypothesis. So the main question is: When will such an ecological disaster occur on Earth? Due to the complexity of this issue and the impossibility of quantification of all important variables, it is impossible to say when we will reach the point of no return, when irreversible changes on Earth lead to the conditions which do not support the existing forms of life anymore. The next question is: Which factors will cause this disaster? If decades ago, the dispute between the two schools was whether the significant factor was “population growth” or “industrial technology”, the widely accepted hypothesis today is that climate change will lead to an ecological disaster. This, however, opens the third issue: What do we mean by this ecological disaster? What will it be like? There is no uniform response. In the early seventies, Enzensberger mentioned the following answers: some ecologists expect greater threats (e.g. climatic, physiological, social and political), others expect the end of the social forms which are based on industrialisation (they expect a transformation into a post-industrial society), and doomsters predict the end of the world (the human species, as well as many other species on the planet, will become extinct).

All ecologists who give such different forecasts believe that the current state of damage can be repaired and in that sense also propose what ought to be done in order to prevent an ecological disaster. Their suggestions are usually one-dimensional and flattened, but it seems that they are acceptable as the basis for the formulation of environmental policies.

Social and Political Awareness of Ecologists

Scientists engaged in individual environmental problems are usually not known to the general public. Their work is highly specialized; they are involved in research with well-defined research goals, normally financed by public funds. Their influence is reduced to the influence of consultants. Such ecologists-specialists cooperate with the industry only when their findings and discoveries can directly benefit the industry and can be used for the creation of new market niches.

However, there are also generalists among ecologists, who inform the public about their insights, spread their knowledge and thus help raise general awareness about the problems of the depletion of nature and the destruction of the environment. They write articles in scientific, professional

and other journals or magazines, they appear on the television and radio as commentators on current environmental problems, they also participate in scientific congresses, their discussions and papers are available on the internet, they are involved in making documentaries, they write scientific books and bestsellers of various genres (from crime novels to comics), etc. Yet their impact does not end there, they also enter politics. With their perceptions of what needs to be done, they are directly or indirectly involved in the shaping of reform promises made by parties or/and governments. Their involvement in the public and political space, however, does not stop at the borders of national states. International organizations (e.g. the UN) include them in international interdisciplinary groups in order to prepare the scientific bases for political decisions.

Ecologists-scientists participated in the design of the concept of sustainable development in the eighties, which was accepted in Rio de Janeiro in 1992 as a concept of the development of the planet. Only a few years later they provided their expertise on climate change, which served as the basis for the concept of the low-carbon society (LCS), if we mention only the two most important political decisions, which had an enormous impact on further development at the global level. Regardless of their impact on the public and contribution at various levels in decision-making processes, it is necessary to analyse their proposals for action. These proposals, apart from scientific findings, include elements of the dominant ideology and of scientific extrapolation⁶, which are derived from their specific knowledge and provided in a way which is characteristic of the discipline in which they were socialized as experts.

Two Cases: Ecologists-Scientists Give Recommendations for Action

An example of such recommendations for action from the seventies was written by Paul Ehrlich, the founder of human ecology. In his work, under the subtitle "Positive programme" we can find the instructions for the political actions Americans and their government should take, internally and externally (internationally). He sees his action programme only as a palliative measure for the crisis, which, of course, does not eliminate its causes.

He claims that:

- The decline in population growth in the United States needs to be stimulated;
- Economic de-development in the United States is crucial if the quality of the environment is to be restored in North America;

⁶ To extrapolate: to arrive at conclusions or results by hypothesizing from known facts or observations; to speculate about consequences on the basis of known facts or observations.

- The international role of the United States is to promote de-development; in the developing countries, it would also support the control of population growth and limitations on environmentally problematic industrialization;
- The modernisation of the government form in the United States.

When Ehrlich identifies the true bearers of change and their supporters, he says that it is not possible to save the world at a critical moment by tearing down the old (democratic) institutions, simply because there are no rational plans for new and better institutions; and even if there were any, there would not be enough time to implement them. In short, it is not the right time to revolutionize the democratic institutional system. At that moment, it is only possible to adapt the old institutions to the new situation, otherwise we risk catastrophe, he maintains. He sees the modernisation of the political system as the only possible way out. Visionaries and pragmatists advocating development in the United States, as well as in other parts of the world, addressed environmental problems without a vision, argues Ehrlich. They did not answer the question of what the image of “spaceship Earth” should be, nor did they have any ideas about what kind of crew this ship needed.

The second example is summarized by a few thoughts of Gosta Ehresvard (1971: 105-107), a biochemist from Sweden, who in 1971 carried out a comprehensive analysis of ecological conditions. He believes that it is still time to develop a long-term perspective and to take action, and that we have not yet reached the point where we can only passively observe what is happening and comfort ourselves with short-term and pragmatic activities. He believes that it is possible to prevent the catastrophe on condition that humanity chooses global measures, which would allow the transformation from an industrialized economy to a new type of agrarian society.

His vision of the future is actually a “back to the past” vision. His proposals are:

- Fossil fuels and electricity – rationalise
- Production of luxury goods and armament – stop
- Food in industrial countries – self-sufficiency
- Scrap metal – recycle
- Research – priorities
- An international institution for the coordination of development – establish (for the purpose of informing the population of this planet on the state of energy and mineral supplies, on the development of research and on demographic conditions).

We could continue with the presentation of these kinds of analyses and proposals presented to the public in the last forty years by more or less renowned natural scientists and technicians. Recently, this line of thinking has been continued by the thematic round tables which accompany the

annual Nobel Prize Award ceremonies, involving famous Nobel laureates (NWD, 2014). If an anthology of the action programmes written by natural scientists in the last few decades had been compiled, we could observe out that the essential dimensions of their proposals are similar. In a way, their proposals can be understood as consensually accepted ideas about what ecology can offer in terms of guidelines for action at the global level. Many of their ideas have by now penetrated the political programmes of international institutions, national and party policies, as well as environmental movements and initiatives. It is basically a hegemonic view of the ecological crisis; and because of the fact that these ideas have a lot of political power, it is necessary to reconsider them and show their internal boundaries/limitations.

A Critique of the Missionary Approach

Enzensberger criticizes the missionary approach, used by ecologists who generate “quick solutions”, with which they would like to save the world from imminent doom. To their treatises on the inevitable end of industrialization or civilization or humankind, or even life on the planet, they, on the other hand, never forget to add a chapter in which they emphasize that things can turn out differently. This mainly depends on the reasonableness of each individual, and if a sufficient number of individuals comprehend in time what it is all about, then the world can be saved and a future for the coming generations is assured. Rational individuals who actively resist the impending danger are that political power on which ecologists who advocate quick solutions place their bets. Another characteristic detected in ecologists of quick solutions is a sudden break in the structure of their discourses, a rhetorical twist that appeals for a different kind of action. The analytical side is trying to scare us, the concluding part is trying to convince us; at least one of them has no credibility, says Enzensberger. The next characteristic reveals the intention of such practices. Warnings and threats are there to prepare individuals for the conversion required by ecologists of quick solutions, while the latter part, which gives us hope, serves as a counterweight, so that we would not take the grim picture of the future too seriously and succumb to despair, apathy or inaction. Enzensberger reveals the similarity between the structure of the treatises of ecologists of quick solutions and the structure of Sunday sermons used by every parish priest. In both cases, the architectonics, which is basically built on the mechanics of the persuasive method, is similar.

Enzensberger uncovers certain elements, which are to be highlighted and considered, not only at the structural level, but also at the content level. He criticizes Ehrlich that his reasoning is permeated with the consciousness

of White Anglo-Saxon Protestants (WASP), which can most distinctly be seen in his social and political imaginary. Ehrlich does not support radical interventions in the political system of the United States. The political system is perceived in the manner of WASP, therefore his perception of the political system is completely ideologically coloured. Thus Ehrlich understands elections as an appropriate means of resolving a variety of conflicts. It is only necessary to elect the right candidates (qualified and well informed about the situation) and occasionally press them with campaigns, letters and citizens' initiatives. If nothing else works, he envisages the establishment of a new (environmental) political party. For him, politics is a matter for politicians, who are expected to act "responsibly"; political processes are entirely personalized. The economy is left to economists and businessmen, who must act in accordance with Ehrlich's ideas. He does not recognize class contradictions and class interests, imperialism does not exist, and world peace will be established with disarmament procedures. Ehrlich's social and political imagery is complemented with a vision, which the modern world does not possess. Enzensberger concludes that Ehrlich performed a complete de-politicization of ecological issues with his ideas by eliminating all the social aspects and consequences. His concrete proposals and demands for the restriction of population growth, for economic de-development and the draconian rationalization in various fields apparently do not affect any interests and privileges, and they do not require any change in the social, economic or political system. Consequently, his ideas can be realized only on condition that the ideas are proposed by an enlightened moralistic mind and carried out in a peaceful, liberal way. In this way, he eliminates the possibility that someone would take his demands seriously and call for radical social and political change.

At first sight it seems that Gosta Ehresvard formulated similar demands much more radically and in cold scientific language, but his line of argument is also apolitical, the same as Ehrlich's. Nevertheless, due to his sense of reality, he placed his research at the top of his priority tasks. By including his interest in the programme, he managed to introduce a dimension of social interest into the programme, even though the social interest in his work is understood in an extremely narrow and limited way. Enzensberger concludes his ideological reflection on the treatises of ecologists of quick solutions with a provocative thought that we are not dealing with fools because they did not take their "immediate programmes" seriously. If we are not dealing with lunatics, we then need to explain to ourselves why such minds resort to such nonsense regarding their proposed measures. Enzensberger seeks the answer in their limited scientific competence; they do not overcome the limits of their biological discipline and therefore remain within the old concept of ecology. Generally, there is nothing wrong

with the professional competences of these ecologists and we would make a mistake if we, on the basis of their social ignorance and methodological weakness, conclude that their professional statements which relate to their subject of research are false and unfounded. On the contrary, each line of argumentation which is based on the causality of natural science is quite useful, but their forecasts, derived from these findings, due to the methodological inadequacy, lose credibility and general validity. They spread their thinking and ideas to human society, although they were really not familiar with the subject. It is no coincidence that they overlooked the specifics of human life (in comparison with other forms of life). Human life namely cannot be comprehended without taking into account its social and cultural dimensions. Since the statements of ecologists-scientists about the present and the future are quietly committed to this reductionism, their findings need to be reduced to the field in which their knowledge was created. As soon as they leave the grounds of their disciplines, their statements reproduce the consciousness of the class to which they belong. And this is not the class of the silent majority. Ecologists-scientists are a privileged and loud minority in a class which they also help to reproduce ideologically. At this point, we have to ask ourselves how to return the political and social dimension to ecological issues, which are totally depoliticized in the scientific discourse. As mentioned before, the forecasts of ecologists of quick solutions are founded on scientific findings, which are uncritically extrapolated to human society because of their ignorance of social sciences. As a result, their future predictions are, due to this reductionism, losing their validity and credibility.

The aforementioned predictions about the collapse of the world and its terrible end are not a figment of their imagination, they are based on the findings about actual tendencies and trends. Nonetheless, they are instrumentalized and embedded in the ideology of the ruling class, which in itself is no longer optimistic. A lack of optimism is also characteristic of the central "ecological hypothesis." Since what it claims and what it says can be fatal for the future of humanity, it should become the starting point for any consideration of the future, as long as it cannot be wholly refuted. Here we need to add that the focus on the future is a constant of socialist thinking, although there are also left-wing political groups who believe that dealing with the future is truly a luxury. The political Left has in fact no good reasons not to deal with perspectives and long-term goals, which cannot be said for its antipode, or political advocates of the bourgeoisie, who are committed to more short-term interests of capital and who want to maintain their present position in the future.

The state, Technocrats, and Environmental policy

In developed countries, environmental issues are dealt with by technocrats, who are employed in both the state apparatus and in industry. Their efforts are supported by those who actively engage in solving environmental problems in international or global institutions by creating normative frameworks and dictating conditions for resolving environmental issues at lower levels. This is not uncommon, if we know that the global hegemonic concept of solving the environmental problems of the world has been designed and adopted in these institutions for the last forty years. The two examples are, the concept of sustainable development, which was globally adopted in Rio de Janeiro in the early nineties, and the concept of the low-carbon society, which was adopted fifteen years later, when climate change became an ideological framework for solving global environmental issues.

Technocrats deal with environmental problems fragmentarily and pragmatically, seeking the quickest partial solutions to specific environmental problems. Not only do they predominantly focus on the technological level of problem solving, they also give their full attention only to the problems which carry the potential for an outbreak of a serious economic or political conflict. Their role, however, varies from country to country and depends on whether a state is able to afford to solve environmental problems in the first place. Indeed, while some countries can afford to plan growth and even profit from counteracting environmental damage, some others are far from being able to do that. Through environmental public policies, developed industrial countries can further stimulate the accumulation of capital by shifting investments to new environmental technological niches, i.e. to various forms of environmental clean-up processes and recycling of different types of waste, to the promotion of intensive growth processes (for example in agriculture), to the innovation and implementation of new “green” technologies, to new energy sources, etc. Other countries will be forced to implement the policies of ruthless exploitation of the available raw material resources (minerals, water, land, forests, etc.), which will, due to structural dependency, be sold on the world market below their value, and the policies enforcing monocultures and/or genetically modified plants, etc., in agriculture. So, what is not structurally possible for these countries is nonetheless possible for the developed countries of the capitalist centre.

Environmental technocrats perceive themselves as “pragmatic” and the only real solvers of environmental problems, yet they actually do not even possess appropriate awareness of the problem. They belong to the group of manipulators who turn environmental problems to their advantage and make a profit out of the situation. They have a clear political motive and/or

economic interest and they are always in the service of the realization of the ruling interests (Enzensberger, 1974: 103).

Hence, it is not difficult to identify common points between environmental technocrats and ecologists-scientists: quick solutions to environmental problems, limited to the technological dimension, and a simplified imaginary about the social, cultural and political dimensions of human life. Common ideological orientation and the aforementioned common points are a good guarantee for a long-term political alliance and symbiosis between environmental technocrats and ecologists-scientists, despite occasional public conflicts caused by some experts who disagree with certain political decisions (usually, they do not support the solution which has been selected among several possible alternatives).

An Example from History

The following historical example about state intervention in the field of environmental protection shows that the behaviour of technocrats has not changed much in the basic dimensions so far, and that today's environmental policies are still guided by utilitarianism, which is one of the most powerful and persuasive approaches to normative ethics in the history of moral philosophy.

Since the beginning of the English industrialization, the damaged environment has had a negative effect on the production process itself, as well as on people's lives. The regulation of this process has remained a hot political topic, which is manifested in recurring disputes about environmental legislation on the jurisdiction of state monitoring, in shifting the burden onto each other, and enforcing the "polluter pays" principle. Various proponents get involved in these political battles all the time, yet they repeatedly find themselves in the same polarized positions, in line with the interests they defend.

A good example of the predecessors of today's environmental technocrats is Sir Edwin Chadwick, an English bureaucrat, who headed the inquiry commission on water supply and sewerage in a Scottish mining village. His role is precisely analysed by American ecologist James Ridgeway (1971). Chadwick was a fan of the utilitarian philosopher Jeremy Bentham and a passionate supporter of state-led reforms. Due to his utilitarian projects, he was hated by people. As a representative of the new class of bureaucrats, he believed in the benefits of administrative mechanisms and reforms from above. On the basis of the reports on sanitary living conditions of the working class in Britain, he provided the central government with greater powers, and designed the continuation of the health care reform. He was convinced that workers should not be exploited to the extreme and that their

living conditions needed to be regulated. From his reforms, he expected higher productivity and a higher life expectancy for workers. Although his reforms served the interests of industrialists, he did manage to bring some peace and order to the lives of the poor.

On the basis of Ridgeway's record of Chadwick's projects in the first half of the 19th century, Enzensberger⁷ concluded that the rhetoric of ecological reformers at that time was (and still is) used to conceal the specific link between interests; the purpose of controlling pollution top-down is not to limit industrial development, as it is strongly anchored in the general consciousness, but to enable or accelerate it.

This can also be said for the concept of sustainable development and the concept of the low-carbon society. These concepts are opening up new opportunities for the further development of society on the basis of a capitalist mode of production, which has no ambitions to prevent, but only to limit pollution.

It seems that societies have spent a lot of money solving environmental problems, but achieved little more than to provide higher employment and some extra profit. The efforts to protect the environment, which have been carried out from above, have only marginally slowed down pollution, but have not stopped it. Therefore, the situation continues to deteriorate.

Instead of a Conclusion

The reflection on the "Proposal for an operational programme to reduce greenhouse gas emissions by the year 2020" and other political documents relating to environmental issues through Enzensberger's text from the seventies offers a specific (radical) view, which is essential for "seeing the big picture" of environmental problems in Slovenia. Critical political ecology has to take a firm position in current discussions about environmental issues to reveal the dimensions which would otherwise remain hidden.

BIBLIOGRAPHY

- Detela, Andrej (2014): Sintorpija v polifaznih zibelkah. Ljubljana: Elaphe.
 Diamond, Jared (2009): Propad civilizacij: Kako družbe izberejo pot do uspeha ali propada. Tržič: Učila International.
 Dobson, Andrew (2000): Green Political Thought (3rd ed.). London/NY: Routledge.
 Ehrensvar, Gosta (1971): Fore - efter. En diagnos: Stockholm.

⁷ Although Enzensberger admits that Ridgeway introduced political arguments in environmental issues, which is a rarity even today, he also points out his narrow focus on traditional ecological issues, as if environmental problems had not expanded and deepened over time. Enzensberger claims that Ridgeway was preoccupied with the issue of water pollution and energy supply, which was the key problem of the 19th century, while he forgot about the new dimension of environmental issues, i.e. impending catastrophes, which is the key problem of the 20th and - we can add - also of the 21st century.

- Ehrlich, Paul R. and Anne H. Ehrlich (1972): *Bevölkerungswachs und Umweltkrise*. S. Fischer: Frankfurt.
- Enzensberger, Hans Magnus (1974): *A Critique of Political Ecology*. *New Left Review* 1/84. Available on <http://newleftreview.org/1/84/hans-magnus-enzensberger-a-critique-of-political-ecology>, 14. 5. 2014 or In: Andrej Kirn (1985): *Pasti razvoja: Ekološke študije*, 98-142. Ljubljana: ČZDO.
- Geels, Frank W. (2002): *Technological Transitions as Evolutionary Reconfiguration Processes: a multi-level perspective and a case-study*. *Research Policy, Issues* 8-9: 1257-1274. Available on <http://www.sciencedirect.com/science/article/pii/S0048733302000628#FIG5>, date of access 14. 5. 2014
- Habermas, Juergen (1968): *Technik und Wissenschaft als Ideologie*. Frankfurt am Main: Suhrkamp.
- Habermas, Juergen (1973): *Legitimationsprobleme im Spätkapitalismus*. Frankfurt am Main: Suhrkamp.
- Harrison, Neil E. (2000): *Constructing Sustainable Development*. NY: State University of New York Press.
- Kirn, Andrej (1985): *Pasti razvoja: Ekološke študije*. Ljubljana: ČZDO.
- Low, Nicholas and Brendan Gleeson (1998): *Justice, Society and Nature: An Exploration of Political Ecology*. NY: Routledge.
- Maslin, Mark (2007): *Globalno segrevanje*. Ljubljana: Založba Krtina.
- Merchant, Carolyn (1992): *Radical Ecology: The Search for a Livable World*, London: Routledge.
- Ministrstvo za kmetijstvo in prostor (2014): *Operativni program zmanjševanja emisij toplogrednih plinov do leta 2020*. Available on http://www.mko.gov.si/si/medijsko_sredisce/novica/article/1328/7121/67b6583f3975de8776e04d803b6c1877/, 14. 5. 2014.
- NWB - Nobel Week Dialogue (2014): Available on <http://www.nobelweekdialogue.org/>, date of access 14. 5. 2014.
- Piers, H. G. Stephens, John Barry and Andrew Dobson (2006): *Contemporary Environmental Politics: From margins to mainstream*. London/NY: Routledge.
- Plut, Dušan (2014): *Ekosocializem ali barbarstvo*. Ljubljana: TRS.
- Ridgeway, James (1971): *The Politics of Ecology*. New York.
- Speth, James Gustave and Peter M. Haas (2006): *Global Environmental Governance*. Washington/Covelo/London: Island Press.