

The Introduction of Green Concepts in the Zasavje Region and a Constructively Critical View Through the Desire to Produce Green Energy of the Waters of the Sava River.

Abstract: Due to the consequences of the fossil era, humanity is faced with developmental and environmental issues of how to meet resource needs. For several years, green energy from RES has been the solution to all major environmental problems. At the same time, the question of the impact of production on the environment arises. The hydropower segment, with its negative effects on the environment and space, calls into question the fundamental idea of green energy as an environment-, nature- and people-friendly alternative. In the article, I want to present the negative consequences of the construction of a hydroelectric power plant on the middle Sava, which, if placed in the last untouched part of our longest river, would cause irreversible environmental and social consequences.

Keywords: fossil era, renewable energetic resources, environment, green energy, hydroelectric power, river Sava.

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Introduction

The development of so called industrial society in the last century, caused many environmental and social consequences. If on the one hand development enabled the improvement of the standard of humanity, easier working conditions and the quality of life, on the other hand it created a consumer society which is and still is based on the exploitation of fellow human beings, resources, the environment and nature.

Throughout the ages of development, the growing population has faced various challenges. Environmental, social, energetic, which shaped environmental and social relations. The renaissance, however, was definitely marked by the period of the fossil era and the industrial revolution, which enabled humanity to make a developmental leap at various levels of life. This positive economic and social development, however, caused significant negative consequences for the environment. As a neglected segment of environmental content and the unbridled exploitation of natural resources and a society that relied only on two elements, energy and economy, conditions have arisen in the environment and society, which are manifested in the rise of global temperature, degradation of the environment and, in some places, due to the lack of resources, which in some places already affect the existence of individuals.

The improvement of living conditions resulted in population growth and thus an increase in the demand for various goods, which the consumer-oriented society only intensified. Even the illiberal economic and social paradigm, which insists on ever-increasing growth and profits, has only deepened the friction in the environment and nature. Excessive use of resources and raw materials, especially in the developed countries of the North, have become the cause of many environmental and social inequalities and injustices.

Environmental injustices, however, have resulted in negative impacts on the environment and, consequently, on society, which are already significantly affecting the existence of living beings on the planet.

Despite the fact that negative consequences of past non-ecological practices have occurred in the environment, which are the cause of human migration and numerous and growing social and environmental ecological conflicts, the global trend is still directed towards the growth of energy use and their unbridled consumption. As a result of the use of fossil fuels and inadequate technological systems in industry, in the production of electricity and individual use, the trend of increasing energy consumption will intensify until 2040. Only the use of coal is expected to stabilize, while the use of oil and other energy sources is expected to continue to grow (Researchgate, 2021).

Due to the ever-increasing impacts of anthropogenic human action in space, and above all the growing imperial way of life of the developed world, which is based on unbridled consumerism and the accumulation of goods at the expense of others, the growing environmental problems have led to the search for a concept that would lead to a more environmentally and more socially acceptable contents.

This is how many environmental discourses have emerged, which are either deficient in their efforts and orientations for a more ecologically oriented society, or still do not contain environmental content and follow neoliberal consumerism. The example of sustainable development, which is referred to by almost all economic and political subjects, is an example of an unfinished or incompletely defined discourse, which has brought many conflicts and ambiguities into the political, economic and environmental spheres as to what sustainable development means in its concept.

The dilemma between neoliberal economists and environmentalists and ecologists, where the first development is interpreted as the continuation of growth and thus the continuation of pressures on the environment, resources and people on a limited planet, while the environmental and ecological profession interprets it the complete opposite. Environmentalists and ecologists interpret sustainable development as development that is limited within the self-renewing and self-purifying abilities of the

environment and nature. The result of a vague understanding of the definition of sustainable development is the ongoing conflict between capital and the environment, which, despite the many visible and felt negative consequences on the environment, nature and people, is still deepening. In the energy sector, which in the rest of the article I analyze in the segment of hydroelectric power plants through a constructive critical analysis, this division in the interpretation of the concept stands out. Above all, the criticism of the article refers to the concept of green energy, which appears in energy and sustainability terminology as a paradigm of future social development. However, the concept itself, like the concept of sustainable development, offers more concerns than solutions.

The questioning of what green energy is at all is the basis of this article, as some of the measures and requirements imposed on us by EU policy already fundamentally represent a dirtier and more wasteful energy-environmental problem for the environment, nature and people than until now energy and resource extraction procedures. If we focus only on electric mobility and the production of hydropower, these are the most typical examples, which in practice in individual segments of water production and dam construction represent not only long-term harmful examples of unsustainable policies for the environment, but also the permanent destruction of living habitats or, in the case of hydroelectric power plants, pressure on drinking water resources. But about that a little later.

Energy, consumption and political dependence

at the beginning, it was mentioned that development, in addition to positive effects, on a limited planet, with negative consequences such as resource degradation, environmental burdens and the like, is a significantly influential situation in the environment and space that we face today on Earth. The so-called imperial way of life, instead of steady development, which could have enabled even previously neglected countries and regions to survive decen-

tly, led to deepening conflicts between the North and the South and between the developed and the underdeveloped. Despite the fact that the negative consequences of development warn us that this way of development leads us to ever greater conflicts between man and nature, and of course between people themselves, today the solutions are only found in the allocation of dirty and controversial technologies to less developed areas of underdeveloped countries. Instead of helping the developed, NIMBY concepts are imposed on these countries, where in the developed north, in the context of environmental justice, this only increases, while in the south and in the underdeveloped, injustice only increases.

The consumption of resources is also enormous in the countries of the developed north. The example of the USA shows that, on average, they consume as much energy as all EU countries, even though some countries of the European Community, such as Germany or France, consume enormous amounts of energy compared to other smaller members.

The problem in this context is a more difficult economy, which still pursues the concept of linear growth rather than social interests. Instead of more environmentally acceptable technologies and less consumption, neoliberal economic practices, viewed globally, are still oriented towards more and ever new products and services that require enormous amounts of energy.

The problem that most prominently emerged in the last two decades in relation to the supply and supply of energy products is that most industrially developed countries do not have their own resources to cover their energy needs.

Most developed countries face a shortage of energy sources and dependence on external providers due to the consumer society and its needs.

The Covid-19 crisis and the conflict in Ukraine have shown that countries are underinvesting in their own energy potential and are heavily dependent on sources from abroad. The dispersion of resources and unpreparedness for various crisis scenarios showed that most EU countries are still sensitive to problems over which they have no direct influence. This economic and energy depen-

dence, as we have already seen in the cases related to Ukraine, leads to a pronounced political dependence, which also affects the supply and price of energy products. Different fossil energy prices depend on support for aggression. Western countries that did not support the aggression had higher energy prices, such as Serbia.

The price also depends on the resellers, who take advantage of the resulting energy crisis for their own enrichment.

Countries therefore provide themselves with resources through imports, which again represents the problem of political (in) dependence, which arose in connection with the supply of energy products and prices in the Russo-Ukrainian conflict. In the period of the last few months (conflict in Ukraine), more and more countries are looking at sources from elsewhere or at the alternative represented by some sources of renewable energy.

The energy crisis from Russia has caused more and more countries to turn again to the reuse of coal and thus to the continuation of the loads.

The state of dependence on foreign resources also in the European Community has caused more and more countries to focus on finding their own energy potentials and thus on greater self-sufficiency, so-called green energy production is not as green as the producers ensure and propagate.

The transition to own energy is not without consequences for nature and the environment.

The transition to renewable energy sources raises many questions about the ecology and sustainability of such development, but at the same time it requires a mental leap both on a personal and social level.

Despite the fact that the transition to RES and self-sufficiency represents a positive shift towards a greater environmental and social future, it also requires changes in human habits.

Changes are needed above all in developed and consumer-oriented societies, which, according to most indicators, are the main culprits for the increase in global social and ecological conflicts. The transition to RES does not only require the use of cleaner and more environmentally acceptable sources and changes

in technologies, but must be based on solidarity at the global level with those who cannot provide these measures.

The transition to a more ecological and green energy future is very challenging for some individuals and countries due to financial malnutrition. Poverty and inequality prevent steady development even in developed countries. Therefore, the introduction of these measures in developing countries promotes the moral and ethical responsibility of developed countries to subsidize the poor, if not otherwise, at least due to the fact that developed countries built their development on the exploitation of colonies and underdeveloped countries.

Energy poverty

The problem of energy poverty refers to countries, environments and individuals who, due to financial incapacity, cannot ensure their own investments in energy renovation systems. If we want to solve global environmental and ecological problems, it is therefore necessary to switch to RES, but with some essential points, so that in practice no additional burdens are caused in the environment and space.

Long-term energy policies must be based on the dispersion of resources, which, even in unpredictable political conditions, enable a sufficient supply of energy to consumers.

Despite the fact that the EU already adopted measures in the post-covid crisis, which should enable countries to cope with crisis situations more easily and which should follow greater energy self-sufficiency, when some measures are introduced into the environment, concerns arise about their environmental and ecological orientation .

The very definition of RES comes from the renewable domain, meaning that resources can be renewed regardless of their use. However, this definition is rather loose, as it does not contain limitations through the concept of sustainability, which is based on the balance of economic, energy, and above all, environmental contents that have been neglected in the past. OVE also does not define exactly what renewable resources are and what they are, or rather it does not deal with the question of how we got this so-cal-

led green energy. The negative side of so-called green projects, or green paradigms in certain segments such as green-electric mobility or water energy production, offer several concerns. First, electric mobility due to the production of metals for batteries, where, on the one hand, the technological problem of lithium production and the energy needed for the lithium saltworks appears, and on the other hand, the social effect of the exploitation of workers, mostly children, in the extraction of cobalt in the Congo. Therefore, when analyzing the environmental impacts, the initial phase of obtaining metals for batteries can be characterized as environmentally controversial and more burdensome than the production of classic aggregates. In addition to environmental issues, the introduction of e-mobility is also caused by the social segment in several forms. The already mentioned problem of the exploitation of child labor and the lack of use of protective means in the extraction of metals can also be attributed to the loss of jobs in the transition from the classic production of aggregates (diesel and gasoline) to electric drive. According to ADAC, less necessary parts for electric cars will lead to the loss of around 600,000 jobs directly in Germany alone, as a distinctly automotive industry, while in industries related to this activity the number of lost jobs in the metal industry is even higher. ... Fewer mechanical components in electric cars will thus be directly responsible for the social crisis, which, similar to the implementation of e-mobility, manifested itself during the transition from the fossil-coal era to other, so-called alternative sources. (Although the states at least took adequate care of the miners when the coal mining industry was closed, the same cannot be said for the other supporting activities, which dried up with the decline of mining. The workers in these activities remained permanently unemployed (Žnidarič, Lukšič, 2022)).

Although the EU boldly wrote in its social decarbonization program that we will all have to switch to electric cars by 2035, it forgot about various aspects that limit such an implementation. The most important is the economic aspect. The price of electric cars, the safety and range of the cars (in terms of power and capacity of the batteries), at the same time as the network of

e-chargers is not yet widespread enough, does not give hope that complete e-mobility will really happen by that date.

If we look at the price of e-cars alone, they vary between 20,000 euros and upwards, depending on the model. Citizens facing economic and social problems will not be able to afford such an expense. Even the countries in the EU are not all equally economically developed, which is why the question arises if the EU has not overstepped its bounds in this regard. The latest information from Brussels shows that there are also concerns about the final date of the transition.

Another problem and concern is the energy for charging e-cars. Today, most of the energy for charging stations is still produced in the classic way and with the help of fossil sources, which is not green energy in the context of sustainability. Even the production of energy from hydroelectric power plants, which should be placed in the renewable energy sector, as we will see below, offers several concerns, since the effects of dams on the environment are negative. But about that a little later.

The safety of e-cars, due to self-ignition and technological systems, still does not represent one hundred percent protection of passengers. That is why we can see in the media that cars caught fire, and in some cases, in addition to the material costs, the passengers in the cars were also injured (some cases even with a fatal outcome).

Energy networks are also insufficiently powerful for the transition to e-mobility, and the charging time determines the usefulness of e-cars more than other cars, as the network of charging stations is also still deficient.

Considering the many negative consequences of green technologies, according to environmentalists and ecologists, green projects are only a cover for the continued exploitation of resources and nature, or the enforcement of capitalism with a green face, which is nothing more than the continuation of the neoliberal, consumerist and profit-oriented growth paradigm (Plut, 2014; Kirn, 2012, 2022). If we take e-mobility as an example, this is certainly true in the initial phase of metal production and battery construction for electric cars (Senegačnik, Žnidarič, Vuk, 2020).

Other technologies and procedures, especially interventions in the environment, if we are talking about the production of energy from hydroelectric power plants, are also environmentally harmful, and at the same time represent a distinctly negative impact on the environment and the existing fauna and flora.

Hydropower plants and the environment

although HPPs are supposed to represent one of the pillars of renewable energy production, this is not the case in reality. We are ecologists of the opinion that energy from renewable sources theoretically represents green energy produced by water resources, but just like e-mobility, in both cases due to the consequences at the beginning of the tap, viewed as a whole, the production is extremely harmful to the environment, nature and people.

In order to obtain hydropower at all, interventions in the environment are necessary, but they are far from a sustainable policy, which should represent a balance with environmental content. Damming the river itself and placing a dam in the natural course of the river represents an intervention that has major negative consequences for the environment, the river itself and all living things that live in the pristine river. It is even more important that many underground sources of drinking water are fed from rivers, which can significantly change the quantity and quality of drinking water if they are dammed. Due to the increasing scarcity of water, even globally, the construction of dams in the context of drinking water is extremely harmful.

Even the silt that is deposited and formed under or in front of the dam contains substances that significantly deteriorate the quality of the water. Due to the limited self-purification abilities of the river, which is significantly changed due to damming, and the temperatures, toxic, non-degradable substances accumulate in the mud and sediments in it.

Regardless of the physical limitations of the river, which change both the biological and chemical structure, temperature and flow rate, it is important that dams also change the flora and fauna.

Indigenous animal species are driven out, and non-indigenous species settle in rivers and dams, which significantly change not only the appearance of such rivers, but also their impact on humans.

Hpp construction and (un) sustainability

Despite the fact that the natural potential of water is financially immeasurable, at least from the point of view of its intrinsic value for human existence, at the same time we are witnessing the growing consequences of human negative environmental practices. economic and political structures still tend to continue non-ecological and non-environmental practices.

Under the guise of exploiting renewable resources and green energy, in a sustainable sense, there are also today in Slovenia tendencies to build the last flow areas of the Sava River with hydroelectric power plants.

Regardless of the fact that the Zasavska region (if we exclude the municipality of Litija, which joined the region only on 1/1/2015), due to the specific mining energy activity and inadequate or no environmental restructuring and problem solving, is already facing environmental and social social problems, the potential construction of as many as three dams on the middle Sava would cause irreversible consequences for people, nature and the environment.

If sustainable development is supposed to follow the balance of economic, social, and above all environmental indicators, the continuation of pressures in the environment, which are dams, represent a departure from sustainability.

Types of obstacles

According to FIP (2024), dams are artificially established obstacles, the work of human hands, which have restricted free-flowing rivers with dams, barriers and locks, to ensure water supply, obtain energy, enable easier navigation or increase flood control (the example of the Netherlands). In the case of Nozozemska and its specific conditions, due to the depression and the higher ocean

level, protection against floods withstands the thesis of increased anti-flood safety, but elsewhere, according to Toman (2022), this does not withstand serious consideration, since according to him, floods are solved in the contributing area of the river, in the upstream part of the streams, not in the lower ones and even less by building dams or by building HPPs. The example of floods years ago in Slovenia, when deliberate releases of water in Austria on the Drava river flooded a large part of the Drava field, is a practical example that dams and HPPs are not built for these cases. I personally think that artificial, unnatural interventions in rivers actually only helped to produce problems and not to reduce them.

There are many different types of obstacles on rivers. Dams are one of the common and well-known types. The rest are dams, locks, culverts, crossings and ramps.

dam: a structure that blocks or restricts the flow of water and raises the water level to form a reservoir

small weir: a structure that regulates flow and water level, but often allows water to flow freely over the top

sluice: a movable structure whose purpose is to control the flow and level of water

culvert: a structure that allows water to flow under an obstacle

ford: A structure that creates a shallow place with good footing where a river or stream can be crossed by wading on foot or by vehicle

ramp: A ramp or bed sill designed to stabilize the channel bed and reduce erosion; recognizable by its stepped shape.

Source: AMBER (2020).

Such unnatural barriers reduce the ecological connectivity of the watercourse, hinder the flow of water, nutrients and sediments, reduce the self-cleaning of rivers, and for living beings, they represent an obstacle to their movement. Large dams completely change the character of water bodies, turning rivers and transitional waters into reservoirs with prevailing lake conditions.

Pressure drivers

There are several sources of point pressures that are generated from different drivers. They can be divided into energy, agricultural, industrial, environmental and human social segments and urban development.

- production of energy from water - larger or smaller dams use the energy of moving water to produce energy
- irrigation systems in agriculture - in areas where there is a lack of water resources, basins are created for irrigation systems
- smaller dams and canals - they regulate the flow of water as well as its retention
- industrial needs - some industrial facilities have water reservoirs built in the immediate vicinity, which are used for e.g. cooling systems
- flood protection (most typical Netherlands)
- availability of water for human needs (drinking water, basic needs)
- recreational activities such as fishing can significantly change the quality of water surfaces through secondary impacts (non-native species of fish and other creatures, non-indigenous species and algae)

According to the EEA (2018), barriers represent the most common pressure on surface water. If European countries are removing them due to economic inefficiency in terms of reconstruction and restoration, and their demolition is supposed to reconnect 25,000 km of river sections (Baecher et al., 1980; Whitelaw et al., 2002), in Slovenia, despite the high density of barriers on rivers, there are tendencies to increase (Pengal et al., 2022). Among the most threatened areas where energy companies want to build new HPPs is the Balkans. According to RiverWatch (2022), the construction of as many as 3,281 facilities is planned in the Balkans, 108 of them are under construction, and 1,726 of them are in the operational phase. Many of these facilities are to

be built in protected and environmentally sensitive Natura 2000 areas, or in other environmentally protected areas.

Planned facilities and facilities under construction in the Balkan countries;

- Slovenia: 370 buildings planned and 1 under construction
- Croatia: 149 facilities planned and 1 under construction
- Bosnia and Herzegovina: 374 facilities planned and 35 under construction
- Serbia: 803 facilities planned and 20 under construction
- Kosovo: 89 facilities planned and 10 under construction
- Montenegro: 93 buildings planned and two under construction
- North Macedonia: 180 facilities planned and 12 under construction

Source: RiverWatch (2022)

Pengal et al. (2022) identified 61,781 barrier records in the Danube and Adriatic basins. 51,859 in the Danube basin (Dp) and 9,922 in the Adriatic basin. Considering the length of Slovenia's river network (44,580.80 km), we have 1.39 barriers per river kilometer in Slovenia. The barrier density for Dp is 1.37 and for Jp is 1.47. In both cases, the numbers are high compared to other areas in the EU.

Table 1. Country (no./km) Estimated number of barriers

Country	Density of barriers (no./km)	Estimated number of barriers
Austria	0,51	8.607
Switzerland	8,11	171.693
France	0,35	63.932
Slovenia	0,13	1.321
Italy	0,49	65.756
Serbia	0,59	14.901

Table 1: Density and assessment of barriers for selected European countries (Bellefi et al. 2020 in Pengal et al., 2022).

Because, according to WWF(2020), the destruction of aquatic environments is three times faster than the destruction of terrestrial ecosystems and since 1980, interference with freshwater ecosystems has caused an 84% decline in the populations of freshwater vertebrates (mammals, birds, amphibians and fish), we are environmentalists and an environmentally oriented profession against the construction of power plants, which would significantly restrict the last parts of free-flowing rivers, and especially the central part of the Sava River, which offers shelter to many indigenous animal species. The unnatural intervention that the construction of HPPs on the middle Sava would represent would at the same time significantly change the living habitats along the river, reduce the water quality and affect the drinking water reservoirs along the river, which supply the inhabitants of the towns located along the river. According to the EEA (2018), unnatural barriers are also the cause of pressures on surface waters, affecting 40% of water bodies. Hydromorphological pressures were found to be among the main reasons for not achieving good ecological status in other river basin management plans (RBMPs), as they are important pressures for 34% of European surface water bodies in 29 countries (EU-28 and Norway) (EEA,2021).

Interventions during the construction of buildings in the environment would be environmentally critical. The buildings themselves, and especially the dams, would visually and spatially significantly change the environmental picture of the landscape, which is now still surrounded by nature. Last but not least, the negative consequences of interventions on the river are most noticeable at already existing facilities, especially in the lower part of the Sava River (HE, Sevnica, HE Brežice and others).

The fundamental problems of dams on rivers and their consequences in the environment According to Toman (2022), the fundamental problems of barriers on rivers are;

- the damming of rivers firstly affects the longitudinal connectivity of the system, interrupts the connections of the lower and upper streams, as a result it greatly changes the

living communities in flowing waters, which significantly affect the quality of water sources for drinking water supply

- the consequences of changes in the course of the river affect the reduction of the river's self-cleansing capacity. In fast-flowing, turbulent rivers, the self-purification of the river can reach up to 30%, which means that the river can “digest” up to 30% more load (mainly organic) than it naturally enters the river. On the example of the Sava River, the self-cleaning capacity was evaluated 30 years ago and actually reached somewhere around 20% (Toman, 2020).
- due to a change in the flow, there is a secondary load, which is the result of the deposition of dangerous substances in front of the barrier, the passage of toxicants into the food chain (via algae, aquatic invertebrates all the way to fish). Due to changes in the main food pathways in the dammed part, eutrophication occurs, which is latent (hidden) in flowing waters. In the case of the Sava, this is already evident in the reservoirs of the lower Sava, not to mention the reservoirs on the Drava, since we still do not have tertiary treatment included. The removal of nutrients (N and P) is also negligible.
- barriers change productivity, i.e. one of the most important processes in flowing waters from the point of view of living communities and habitats. As a result, the riverbeds in the lower part deepen (an example can be the Mura due to accumulations on the Austrian side!), which further changes the communities and, consequently, the self-cleaning ability.
- it is also important to point out falsehoods regarding flood safety. HPPs are not built for flood protection, but at the beginning of the tap.
- last but not least, any accumulation represents a change in metabolic processes. In a silty accumulation, a large part of the sediments are organic substances, because the conditions are often anoxic, as methanogenesis occurs, the product of which is the greenhouse gas methane,

which is 10 times more environmentally influential than carbon dioxide from the point of view of greenhouse gas production. (Toman, 2022).

Toman (2022) is critical of human impacts on water resources and ecosystems as he says;

“We always like to talk about warming, but on the other hand, we uncritically and ignorantly change water environments and talk about sustainability. We only permanently destroy the river with HPP, a disabled river, otherwise it can still live, but its life is not worth it”.

Various experts have been dealing with the many negative impacts of barriers for a long time (Liermann et al., 2012), but they entered the wider public discourse only in the last decade. The consequences of placing barriers on different watercourses are similar and can be generalized to some extent, but river ecosystems are unique and complex, so the consequences of interfering with them are also complex and specific. In other words, each individual barrier has its own consequences. Rosenberg et al (2000) summarized the cumulative impacts of barriers as follows:

- establishment of new reservoirs within the water cycle of the basin (Petts, 1984);
- changes in natural water and sediment flows and seasonal patterns of river flows (Varosmarty and Sahagian, 2000);
- changes in ecosystem processes: nutrient cycling and primary production (Pringle, 1997; Rosenberg et al., 1997), biogeochemistry of downstream and coastal areas (Ittekkot et al., 2000);
- fragmentation of riverine habitats (Dynesius and Nilsson, 1994) and associated/dependent organisms (Dudgeon, 2000; Pringle et al., 2000);
- Deterioration and loss of flood plains and riparian areas downstream of barriers (Nilsson and Berggren, 2000);
- deterioration and loss of river deltas and estuaries (Rosenberg et al., 1997) and lowering of sea level (Chao, 1995);

- deterioration of the state of irrigated terrestrial ecosystems and related surface waters (McCully, 1996);
- problems with drainage, eutrophication, pollution and contamination (Zalewski, 2000, 2002);
- contamination of food chains with methylated mercury due to altered microbial activity in flooded areas (Kelley et al., 1997);
- cyanotoxic contamination of reservoirs, river water and trophic levels (Zalewski, 2000);
- genetic isolation as a result of habitat fragmentation (Pringle, 1997; Neraas and Spruell, 2001);
- impacts on biodiversity (Master et al., 1998);
- destruction of fish habitats and populations, and consequent decline in fishing (Petts, 1984);

Considering the negative impacts of HPP construction on the environment and living and non-living nature, the construction of HPP and the consequences of building interventions on the environment and space are unsustainable policies that have nothing to do with sustainable concepts. Deception by capital about the so-called green hydropower is the fruit of a materialistic and economically profitable view, which, considering all the listed negative consequences of intervention in space, has only one sign, i.e. the continuation of burdening and exploitation of nature and the environment. From an environmental point of view, the sustainable growth of energy consumption and thus energy production is unsustainable and does not lead to a reduction of the burden on the environment, but on the contrary, to its greater degradation (Kirn, 2020, Žnidarič, 2023).

Solutions related to barriers on rivers and streams

The construction of HPPs on free-flowing rivers is definitely not a solution for the energy policies of individual countries. Smaller interventions in the environment are represented by other alternative sources, such as solar power plants, heating systems, geothermal

energy, wood and wood biomass. Of course, at the same time, it must be emphasized that all the best technical standards, or BAT, must be taken into account when implementing RES systems.

Another measure is reduced consumption. The Western, so-called developed world is extremely wasteful when it comes to the underdeveloped. For example, the United States has consumed more fossil fuels and minerals in the past 50 years than all other countries combined. Instead of people talking about reduced individual consumption, the consumption trend continues. According to Kajfež Bogataj (2020), Slovenians, for example, should reduce their consumption by half, considering the impact on the environment and the carbon footprint, if they wanted to cover consumption with their own potential. Now most of the countries of the developed north are heating and spending at the expense of other less developed countries. At the same time, the developed forget that they are to the greatest extent also to blame for increasingly intense and frequent weather phenomena.

In the case of HPP, there are solutions, especially since many in Europe have already realized that the mere construction of dams, their maintenance and the consequences on the environment cause more negative consequences than if these dams were not there. Despite environmentally and energetically better alternatives such as HPPs, due to the influence of capital on decision-making, the pressure on decision-makers is great.

The third and last but not least, very important measure is that when deciding on the measures, the profession and the interested public face each other and include them in the decision-making process of whether such prospects even fit into the environment or not. Although it has been the practice until now that Civil Initiatives were treated as inhibitors of development, their importance is becoming more and more important, as well as the protection of the environment, despite the fact that this struggle is often seen as a David and Goliath struggle. On the one hand, capital and non-environmental policies and action from positions of power and exploitation, and on the other, environmentalists on the side of nature and society and with the power of enthusiasm.

Conclusion

if at the beginning of the article we still wondered whether water energy is still green considering all the visible and invisible consequences on the environment, nature and society, the reader will come to his own conclusion through the article. Ecologists and environmentalists are of the opinion that the consequences of dams are extremely harmful for everyone. From the point of view of the protection of drinking water sources, however, they can represent an existential and survival problem, which is why we firmly reject them.

In accordance with the Biotic Strategy, Slovenia committed itself to the restoration of free-flowing rivers. Restoring the original situation is almost impossible due to past interventions. The situation will be able to change for the better only in decades, when nature will recover. Therefore, in terms of the negative consequences, any new approach is not only questionable, but harmful. The task of us and future generations is to draw attention to the problems and to look for ways and measures that will reduce the burden on the environment. By building hydroelectric power plants, we will only increase the load. If we want to survive on a limited planet, we will have to change our attitude towards nature and the environment, and definitely reduce our consumption habits, otherwise we will fall into even greater conflicts between people and nature.

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