

THE PROSPERITY COMPASS

FOCUS INDUSTRY

Measures to green Bulgaria's industry for ensuring its competitiveness



MOVE.BG

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The teams of MOVE.BG and SCION Society
would like to thank all 22 Bulgarian experts
who took part in the foresight analysis.

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1.

DOES THE FUTURE MATTER?



“Future” is among the words that we often use and their meaning is well-known: it is the time coming after the present moment. Therefore, we use the word “future” frequently to project the future we want, the way tomorrow would look like.

However, do we really know what we want for our society of tomorrow?

Let us consider the meaning of “future” in socio-political terms:

- **A blueprint prepared in advance by “the two great powers” according to which Bulgaria can do nothing, while Europe is powerless and weak and should acquiesce;**
- **The age-old dream of “Switzerland in the Balkans” with well-preserved nature and prosperous society, which we cherish but leave to the next generation to fulfil;**
- **Scary unknown that we prefer to tackle “when the time comes”.**

In all these three options, we cannot think in terms of what future we want, right? We are just procrastinating bystanders who will not seek solutions to the existing challenges.

“**Destined success in life**” is another meaning of the word “future” according to the Dictionary of the Bulgarian Language of the Bulgarian Academy of Sciences.

To succeed as a society, we need to know what we want to achieve in socio-political and economic terms and what drivers would be at play in the process of attaining our objective.

We need to decide whether we want to live in a society where:

- **Every individual can unleash their potential;**
- **Business can develop free of dependencies and corrupt practices;**
- **Industry is innovative and competitive;**
- **Jobs are secure and well-paid;**
- **Civil society exercises oversight of the actions of policymakers;**

- **Politicians listen to the recommendations given by experts in the civil society sector and academia;**
- **Cities and rural areas are places of prosperity and happy living;**
- **Polluted air is bygone and there are abundant parks and playgrounds;**
- **Forests are restored and conserved;**
- **Rivers are clean and protected;**
- **Biodiversity is restored.**

A possible way to attain this future is to ensure economic freedom and environment for economic development that accommodates people, nature, and society at large. We, **MOVE.BG**, know that economic freedom underlies any other freedom.

Therefore, we launched this initiative to focus on industry as the main pillar of the economy, and to identify solutions for its development within the global trends of competitiveness: introducing digital and green technologies to upgrade quality and to conserve nature; introducing circular production models and achieving net zero emissions; improving energy efficiency to reduce costs and to decarbonise; implementing innovation to find new markets and to provide more secure and better-paid jobs.



Bulgaria's industries can develop free of pressure, dependencies and corrupt schemes; they can conserve nature and its resources in the country, ensuring smart and circular use of waste turned into resources to provide for economic resilience and development; they can create secure and well-paid jobs, and develop and implement innovative solutions to improve production processes...

The European Green Deal with its legislative reforms and investment programmes gives us a chance that we must not miss. Notwithstanding some delays and readjustments of some objectives of the Green Deal and in spite of the abandonment of climate policies by the USA, "the leading great power", the green transition continues to be Europe's main development programme for 2050.

The green transformation is directly linked to safeguarding democratic development and economic prosperity.

It is only a free society of active citizens that requires and monitors the implementation of nature conservation measures because it knows that this is the way to live better. It is not by chance that many protests against authoritarian regimes, including those in Bulgaria, start with environmental causes. Non-democratic regimes do not care about nature because they do not care about the prosperity of citizens at all. Not accidentally, the growing propaganda against democracy and the European Union goes hand in hand with large-scale disinformation against climate policies and green development.

On the other hand, it is only through greening of the economy that we can guarantee its development today and tomorrow against the backdrop of diminishing resources and ever stronger manifestations of climate change.

For this reason, it is important to make the first step of reforming industry as the main pillar of the economy towards environmental sustainability. It is time to consider what measures will green the economy and how they can be implemented immediately.

WHY IS INDUSTRY AN IMPORTANT TOPIC?

Industry manufactures goods which are indispensable or the lack of which would make our lives very difficult: the food, beverages and medicine we consume; the furniture and appliances we use at home; the vehicles, trams and airplanes we use to move; the electricity and heating we use every day; the phones and laptops without which we could hardly imagine our everyday life. And, of course, digital products which roll out in all spheres of life and could help modernise the economy.

We cannot live without industry. Therefore, we should ask ourselves what kind of industry we want to have in Bulgaria. Do we put up with the fact that we rank alarmingly low in terms of competitiveness, which implies insecure jobs, low wages, lack of opportunities for prosperity, and the highest growth rates of production costs?...

The root causes of the problems with competitiveness include the following:

- We use the biggest amount of resources in the most inefficient way to manufacture industrial products. Bulgaria has the most resource-intensive economy in the European Union and that greatly reduces its competitiveness because we use much more resources than other economies in Europe. As well as having problems with its competitiveness, the unreformed industry in Bulgaria exerts unsupportable pressure on nature, on the environment in which we live;
- We use the greatest quantity of energy to manufacture industrial products, The Bulgarian economy is 3.5 times more energy-intensive than the EU average, which means 3.5 times less competitive goods. Huge resources are spent to cover energy costs instead of increasing wages, improving products and finding new markets. The inefficient use of energy is among the reasons for the Bulgarian economy to continue to be first in terms of carbon intensity in the EU;

- We are unprepared for the manifestations of climate change – national and local government authorities, managers and workers are not prepared to respond to floods, heat waves, wildfires or drought so as to save human lives, to safeguard production processes and to protect products and infrastructure;
- We underuse digital technologies and their capabilities of improving production processes and implementing business strategies for development and environmental sustainability – Bulgaria continues to rank second to last in the digitalisation of businesses and society.

Still, there is some **good news** that **could help us** overcome all these challenges.

Over **40% of green startups, civil society initiatives and research projects create innovations that are unique in the world**. This is corroborated by the data of the second national survey of green initiatives Green Solutions from Bulgaria, which **MOVE.BG** conducted in 2025.

Green innovators offer solutions in some major spheres of sustainable development, such as fighting climate change, developing the circular economy and protecting natural resources.





Another very important fact is that the high percentage of innovation is sustained in comparison to the first national survey held in 2024. This comes to show that, regardless of all difficulties, Bulgarian innovators continue to contribute to the important objective of ensuring Bulgaria's prosperity by facilitating its transition to a future with net zero emissions by 2050.

The European Union has set the target of having built a society and economy with net zero emissions by 2050, i.e. to generate as many harmful emissions as nature can absorb.

This is the new competitiveness – simultaneous greening and digitalisation of the economy, while safeguarding jobs. Innovation is the means to facilitate the process.

It is not by chance that one of the seven priorities of the European Commission for the period 2024-2027 is the new plan for Europe's sustainable prosperity and competitiveness, in which the shift of industry to net zero emissions plays a major role and innovation is the main tool to achieve this target, where 4 billion euro are allocated for its development and uptake.

Many European countries have embarked confidently on this path to guarantee the competitiveness of their industries and jobs. It is time for Bulgaria to follow suit.

To turn this into reality, we must be prepared for what could happen in 2050.

So, let us think together:

- **Do we know the factors that could have an impact on the world, on the EU, and on Bulgaria in 2050?**
- **How could we understand which these factors are?**
- **What would we do if we knew the possible scenarios for the development of the future?**

We tried to answer all these questions with the help of the special strategic foresight methodology and 22 Bulgarian experts from different spheres.

Why strategic foresight analysis?

Strategic foresight is the main tool to prepare for the future, given the interplay of intricate processes that even seem unrelated at first glance, e.g. climate change, digital transformation, outbreaks of viruses, social divisions ...

The foresight methodology overcomes the constraints of the conventional linear policy planning (one problem - one solution) and it is used by a number of international institutions and organisations, including the European Commission and the Organisation for Economic Co-operation and Development (OECD).



What did we do?

We, **MOVE.BG**, together with our partners from **SCION Society**, organised a special forum of a cross-disciplinary group consisting of **22 prominent Bulgarian experts** to analyse what could happen in 2050 and what actions could be taken to prepare and **secure the competitiveness of Bulgarian industries by implementing greening measures**. Representatives of political parties and local government authorities, businesses, the financial sector, academia and civil society organisations took part in the forum.

The methodology included three main steps. First, together with the experts, we discussed the leading factors/trends that would have an

impact on the world, on Europe and on Bulgaria in 2050. After a thorough discussion and putting possible options to the vote, **climate change** and **labour structure** were selected to be the two major trends. The second step was to work out **four possible scenarios for 2050**, depending on the **different level of manifestation** of these two drivers: from overwhelming climate change to climate change under control, and from a well-developed labour market structure supportive to industrial and green development to severe problems with the labour market and automation. The experts were divided into four breakout groups to work on each scenario and analyse what would happen to society in that case. The four groups were as follows:



- **Scenario A: Severe manifestations of climate change, serious challenges to the labour market structure**
- **Scenario B: Climate change under control, serious challenges to the labour market structure**
- **Scenario C: Severe manifestations of climate change, well-developed labour market structure**
- **Scenario D: Climate change, well-developed labour market structure**

municipal policies to the occurrence of potential triggers of social divisions, social insecurity, and political and economic volatility.

The measures to support the reform of Bulgarian industries, which we developed on the basis of the different scenarios, set out the general guidelines for improving the environment with a view to creating the necessary conditions for the development of industry and safeguarding its competitiveness today and tomorrow.



Finally, we proposed **recommendations to reform industry so as to make sure that it will embark on the green transformation path today**, to provide for circular and competitive industries which develop free of pressure and dependencies in 2050, to create well-paid jobs, and to protect the environment and ecosystems.

The ideas of the experts are presented in this brochure The Prosperity Compass: Focus Industry.

The four scenarios could be used to plan policies in any sphere because climate change and the labour market structure are and will continue to be major drivers of social development since they impact every social sphere from the development of political programmes and business strategies through the implementation of national and

Competitiveness has new dimensions: high level of digital development and environmental/green sustainability.

Bulgaria stands a chance to be among Europe's leaders in these dimensions of competitiveness because the innovation developed here provides global green and digital solutions.

It is time to unleash its potential that will facilitate our way to social prosperity.

We believe that this initiative is an important first step in this direction.

2.

FOUR POSSIBLE SCENARIOS



2.1. Scenario A

Severe manifestations of climate change, serious challenges to the labour market structure

CLIMATE CRISIS THREATENING SOCIETY AND THE ECONOMY, CHAOS IN THE LABOUR MARKET, SOCIAL TENSION AND CONFLICTS

The following experts took part in the development of this scenario:

- **Borislav Sandov**, Deputy Prime Minister for Climate Policies and Minister of the Environment and Water (2021-2022)
- **Boris Varbanov**, Expert, Zagore European Digital Innovation Hubs (EDIH) in Stara Zagora
- **Dimitrina Shindova**, Head of Transfer Operations and Outreach Activities, Centre for Cleantech and Biomass Resource Efficiency in Plovdiv
- **Iva Petkova**, Director of Development, Green Financing and Communications Department of Fund FLAG
- **Assoc. Prof. Marina Stefanova, PhD**, Vice-Dean for Sustainability, Empowerment and Engagement of the Faculty of Economics and Business Administration, Sofia University
- **Panel moderator: Kamen Slavov**, Co-founder of SCION

The experts participated in their private capacity rather than as representatives of the institutions or organisations where they worked as of November 2025.

The section that follows contains a summary of the scenario, the main challenges drawn up on the basis of the experts' vision of the scenario, as well as details of their ideas of what the scenario means.



The scenario in summary

CLIMATE AND ENVIRONMENT a climate crisis posing risks to human lives and nature and its resources, threatening the infrastructure, industrial development, social systems and social peace

SOCIETY AND THE STATE: social tensions and divisions, social riots, chaos in the community and in government authorities, lack of mechanisms and policies at the central government level to address the challenges which pose a risk to the security and life of the population

ECONOMY: rise of monopolies, a handful of people control the scarce public goods left, restrictions on business activities and free initiative

INDUSTRY: lack of production resources, shortage of skilled manpower, endangered security of the infrastructure and logistics

LABOUR MARKET: rampant unemployment due to the adverse impacts of the climate crisis on the economy and due to the lack of adequate worker training programmes

CONDITION OF DEMOCRACY: façade democracy, likelihood of autocracy or dictatorship, lack of oversight mechanisms, the chaos due to failed climate and economic reforms threatens all social systems and the overall development of the country

CENTRAL QUESTION TO CONSIDER: What should Bulgaria do today to prepare and avoid such a scenario?

Main challenges

The possible challenges in this scenario are presented on the basis of the experts' ideas

In this scenario, 2050 will see a world that has failed to address climate change, experiencing all

Bulgaria included, finds itself in a climate crisis with incessant alternation of storms, floods, heat, and wildfires in 2050.

Human life is under the continuous threat of climate cataclysms, while nature is on the verge of extinction. The infrastructure, such as roads, wa-



SOLUTION

Development of applied artificial intelligence trained in a regional context

the adverse effects of its failure.

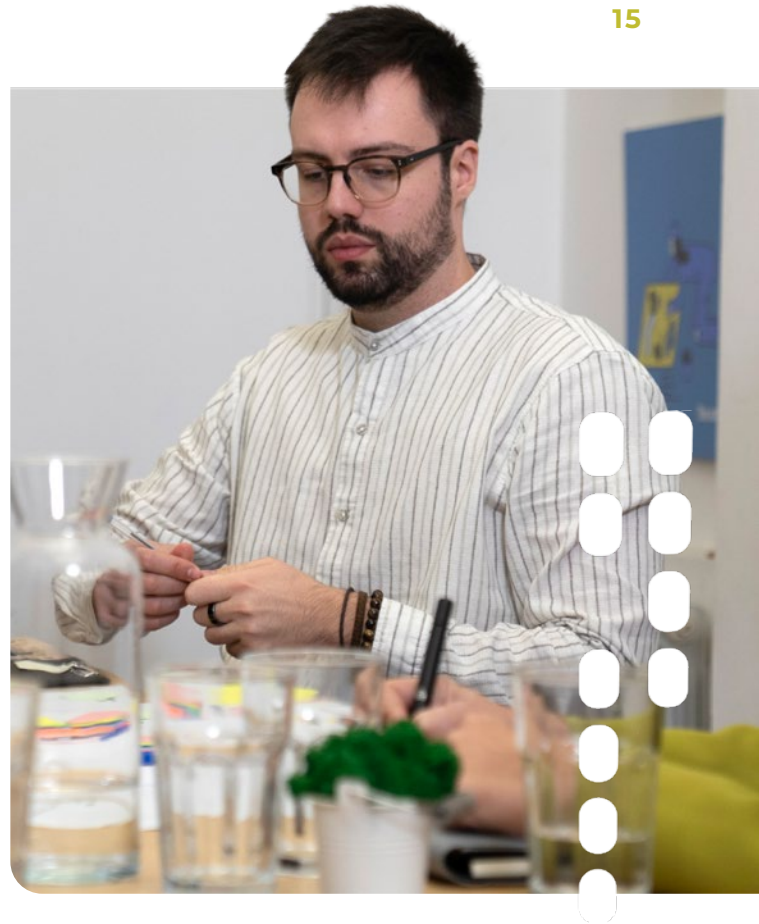
On the one hand, countries in the world, including the Member States of the European Union to which Bulgaria belongs, have failed to implement the measures needed to limit the root causes of climate change, i.e. greenhouse gas emissions. Populism and the propaganda against climate policies have taken the upper hand over the period from 2026 to 2050. Therefore, the whole world,

ter pipelines, power grids, is either destroyed or decrepit. Water shortage is typical for the world and for Bulgaria. The manufacturing of products like medicines, household appliances, telephones, computers or vehicles is severely impeded by the deficit of resources and the abandonment of the circular economy. The shortage of goods leads to exorbitant prices. Bare necessities turn into expensive luxury. Soil is depleted, threatening the supply of food to the population.

Countries have abandoned the adaptation policies from previous years and, for this reason, they are unable to cope with the manifestations of climate change: there are no mechanisms to save the lives of human beings and of the other plant and animal species and to protect the infrastructure, production facilities and social systems.

On the other hand, serious problems persist in the labour market structure. Workers lack the skills needed by industry in the situation of a climate crisis and an imminent economic collapse. The uptake of digital technologies in businesses is limited, which is another constraint of economic development. Serious difficulties emerge in guaranteeing wages and normal working conditions for the few workers employed. Economic initiative, too, is hampered severely, while the main industries fall into the hands of oligarchs who impose heavy monopolies.

Climate change is the main national security threat which the authorities fail to tackle and, therefore, sentiments arise against democracy as a form of government. Social divisions and extremism are on the growth. Strong social riots take place. Government authorities are unable to put social tensions and divisions under control.



The scenario in detail

This section presents the main theses of the experts who contributed to the development of this scenario.

WHAT HAPPENS TO THE ENVIRONMENT?

- Capricious weather every day, enhanced risks/unpredictability in all aspects of life
- Growing natural disasters
- Continuous high level of threat to human life due to the manifestations of climate change
- Rapid destruction of nature
- Need for more protected areas
- Need for the development of new technologies/specialties to counter the effects of climate change
- Plundering of natural goods
- Degradation of the urban environment
- War for resources



- Physical AI/robots are used in the fight for the available scarce resources
- Shrinkage of arable land and transformation of main public goods into commercial products

WHAT HAPPENS TO SOCIETY AND THE STATE?

- Individual fight for survival
- Policies implemented in practice fail to bring about social prosperity
- Drastic deterioration of the quality of life
- Growing inequalities
- Inequality becomes the new mode of life
- Strong polarisation and extremism
- Community fragmentation
- Massive unemployment
- Large-scale social riots
- Alienation among people and increased frequency of depressive disorders
- Emergence of a generational stigma
- Widespread violation of human rights
- Disrespect for ownership rights due to the war for resources
- Search for alternative destinations to settle because of the climate crisis and social tensions
- Increased birth rates in response to the fear of death due to the climate crisis
- Greening of populism – although they used to deny climate change in the previous years, populists make a U-turn in 2050
- Defeat in the war with AI for efficiency and resources
- Technological advancements and resources are accessible only for elites

SOLUTION

Focus on regional resources as a basis for the development of green industries





SOLUTION

Investment in education, multiculturalism and mobility

WHAT HAPPENS TO THE ECONOMY AND INDUSTRY?

- Massive restrictions on economic freedom
- Development of clean and circular technologies because of the lack of an alternative
- Worsened condition of vulnerable groups in society
- Widespread bankruptcies
- Cancellation of insurance policies as a valid economic protection instrument against any risks
- Severe shortage of manpower
- Ageing manpower and insufficient automation, especially in certain regions
- Absence of any protection of labour rights
- Maximisation of the use of all kinds of energy sources and profit maximisation
- Shortage of energy for production purposes
- Undercapacity of power grids
- Failed energy security due to the abandonment of climate policies in previous years
- Limited availability of capital and increase of its price
- Feeble business activity
- Very volatile regulatory framework for the economy
- Shortened time frame for business decision-making
- Initiatives blocked because of the fear of the unknown and the insecure environment
- Increased production costs
- The economic crisis deprives green projects of capital for their development
- The crisis in the labour market leads to undercapacity for the development of green initiatives
- The digital transformation is way ahead of adaptation



- AI-made managerial decisions in the context of non-existent ethical rules
- Monopolization of green technologies and their implementation as a result of the polarisation in society and the economic crisis
- Monopolization of the development of cutting-edge innovation
- Widening gap in the economic development of regions in Bulgaria due to the ever greater differences in the access to capital, manpower and resources

POSSIBLE LINES OF ACTION IN 2050 IN THE CONTEXT OF THE EXISTING CHALLENGES

- Fiscal policy decentralisation
- Implementation of human capital mobility policies
- Focus on regional resources as the basis for developing green industries
- Development of applied AI trained in a regional context
- Implementation of measures to boost economic activity
- Energy efficiency, circular technologies and other green policies which were abandoned in previous years should be reintroduced urgently
- Urgent implementation of eco-design policies as a way to open up new business opportunities
- AI-supported revival of lost production practices that have the potential to foster sustainability
- Appreciation of the need for implementing nature-based solutions
- The fear of business bankruptcy leads to optimisation of processes, including frantic implementation of energy efficiency measures
- Development of blockchain ecosystems/co-operatives as a counterweight to monopolies
- Investment in education, multiculturalism and mobility
- Bulgaria can set an example of restoration of natural ecosystems and future life in harmony with nature thanks to its natural assets within a relatively small territory

The ideas presented here are summarized and groups together without any claims that they have been approved unanimously by all participants in the panel.

SOLUTION

**Measures to increase
investment activity**

2.2. Scenario B

Climate change under control, serious challenges to the labour market structure

CHAOS IN THE LABOUR MARKET AND BLOCKED INDUSTRIES, THREAT TO THE PROGRESS ACHIEVED IN CLIMATE

The following experts took part in the development of this scenario:

- **Assya Dobrudjalieva**, Project manager at Habitat for Humanity Bulgaria, President of the Managing Board of the Bulgarian Association of Municipal Environmental Experts
- **Georgi Stefanov**, Climate and energy expert, Member of the Management Board of the Bulgarian Association Geothermal Energy
- **Konstantin Ivanov**, Expert in strategic communications Bulgaria, European Climate Foundation (ECF)
- **Maria Alexandrova**, Head of Innovation Projects and Sustainability, Nasekomo
- **Panel moderator: Ana Doneva**, Expert, MOVE.BG

The experts participated in their private capacity rather than as representatives of the institutions or organisations where they worked as of November 2025.

The section that follows contains a summary of the scenario, the main challenges drawn up on the basis of the experts' vision of the scenario, as well as details of their ideas of what the scenario means.

The scenario in summary

CLIMATE AND ENVIRONMENT: climate change under control to prevent the threat to human life and to ensure nature conservation, economic development and social peace

SOCIETY AND THE STATE: communities live in harmony with nature but, on the other hand, there are strong social tensions due to the problems in the labour market

ECONOMY: strengthening of monopolies because of the problems caused by the crisis in the labour market and risk for the restored natural resources to fall into the hands of few but very powerful economic entities

INDUSTRY: serious difficulties in industrial production due to the shortage of manpower and skills of the workers and the failure in the implementation of digital technologies; however, the implementation of circular models and the transition to net zero emissions resulting from the successful climate policies are a ray of hope

LABOUR MARKET: chaos due to the urgent need for manpower, coupled with the lack of adequate worker training programmes

CONDITION OF DEMOCRACY: serious risk to the condition of democracy because of the economic problems caused by the chaos in the labour market

CENTRAL QUESTION TO CONSIDER: What should Bulgaria do today to adequately prepare the future generations for different developments in the economy and the labour market, on the one hand, and, on the other hand, what mechanisms are needed to guarantee that the benefits from the properly implemented climate policies will be sustained?



SOLUTION

Introducing a systematic sustainable green policy

Main challenges

The possible challenges in this scenario are presented on the basis of the experts' ideas

Climate change has been put under control thanks to the attainment of the targets set out in the Paris Agreement by the Parties. Policies are implemented to use resources at the local level, depending on regional specificities. Communities live with what they have within their area. Greenhouse gas emissions are limited in line with the net zero emissions concept. Waste is turned into a resource. Natural resources like water, soil and forests are restored and protected. The quality of air has improved, and it no longer exceeds levels that are harmful to human health, while the implementation of nature-based solutions is an essential policy component.

The consumerist society has been transformed into a society of makers, while the successful implementation of climate policies, including the reduction of greenhouse gas emissions and the implementation of adaptation and nature conservation policies, has brought about social prosperity. Government policies are in line with public interests, corruption has been eliminated, and human rights are protected.

This seemingly perfect scenario has its serious flaws: the existing crisis in the labour market creates chaos and threatens not only economic development and industrial production but also the progress in addressing climate change and the restoration of biological diversity.

As for economic development, it exhibits signs of a severe crisis. Industrial production is on the verge of halt because of the lack of skilled professionals and the delayed uptake of digital technologies. There are no adequate worker training programmes since the government is too busy to handle daily social problems and businesses are preoccupied with their daily needs. The lack of automation has brought about serious difficulties in economic development and paralysis of the state because the competitiveness of the economy is strongly eroded and based only on emerging innovation.

The chaos in society caused by the crisis in the labour market threatens the functioning of the state and its social systems. The tensions caused by high unemployment rates and low wages pose a risk to the implementation of any policy requiring the adoption of unpopular measures.

The social prosperity achieved thanks to the successful implementation of climate policies is at stake because of the economic problems.

The success of climate policies and the mitigated adverse impacts of climate change are the only rays of hope for overcoming the economic crisis and social tensions. The crucial question is whether the state, businesses and society would be able to use that benefit or the socio-political crisis would make them sacrifice the achievements in the name of short-term political and economic gains.

The scenario in detail

WHAT HAPPENS TO THE ENVIRONMENT?

- Success of climate policies – global warming is kept under the 1.5 degrees threshold and does not pose a risk to the life of human beings and other living organisms
- There are weak periods of floods, droughts or wildfires from time to time because of the need for more time to restore the climate

SOLUTION

Development of innovations for the development of green agriculture



- Successful introduction of adaptation policies
- The environment is in the process of successful adaptation and decreasing adverse impacts on nature
- Water is free of industrial and municipal pollution
- Waste has been eliminated: we produce 80% less waste than in 2025
- 100 % of biowaste is collected separately
- 50% of the biodiversity existing in 2025 has been restored
- Bees are saved and not extinct
- Improved air quality
- Fine dust particles are within the norms prescribed by the World Health Organisation
- People prefer living in nature rather than living in big cities
- Large-scale implementation of nature-based solutions
- Sustainable use of natural resources
- Environmental awareness and the green life-style are integral parts of everyday practices
- Emergence of new crop varieties as part of the development of sustainable agriculture

WHAT HAPPENS TO SOCIETY AND THE STATE?

- The consumerist society has been transformed into a society of makers
- The measure of well-being and public benefit is the major success criterion for government policies
- Fundamental human values prevail in society
- Establishment of green regions
- Kleptocrats and technocrats matched together in government

- Weak autocracy with change of elites at every 20 to 30 years
- Zero corruption
- Educational system creating a literate and responsible community
- Social tensions due to the labour market crisis
- Entertainment offered to defuse social tension

WHAT HAPPENS TO THE ECONOMY AND INDUSTRY?

- Implementation of working economic and industrial solutions based on the resources available in Bulgaria and its regions
- Locally supportive infrastructure – decentralised short supply chains, industrial symbiosis
- Adapted sectoral structure
- Decentralisation of hydro power generation but, at the same time, rise of hydro power generation monopolies around oligarchs
- Uptake of technologies following the world's best practices
- Regenerative agriculture with respect to soils and ecosystems
- At least 70% increase of circular practices in industry as compared to current levels
- Use of geothermal energy for power generation, heating and cooling
- Industry and economy based on local constraints and opportunities
- Chaos in the labour market
- Problems with manpower – shortage of skilled workers
- Growing unemployment

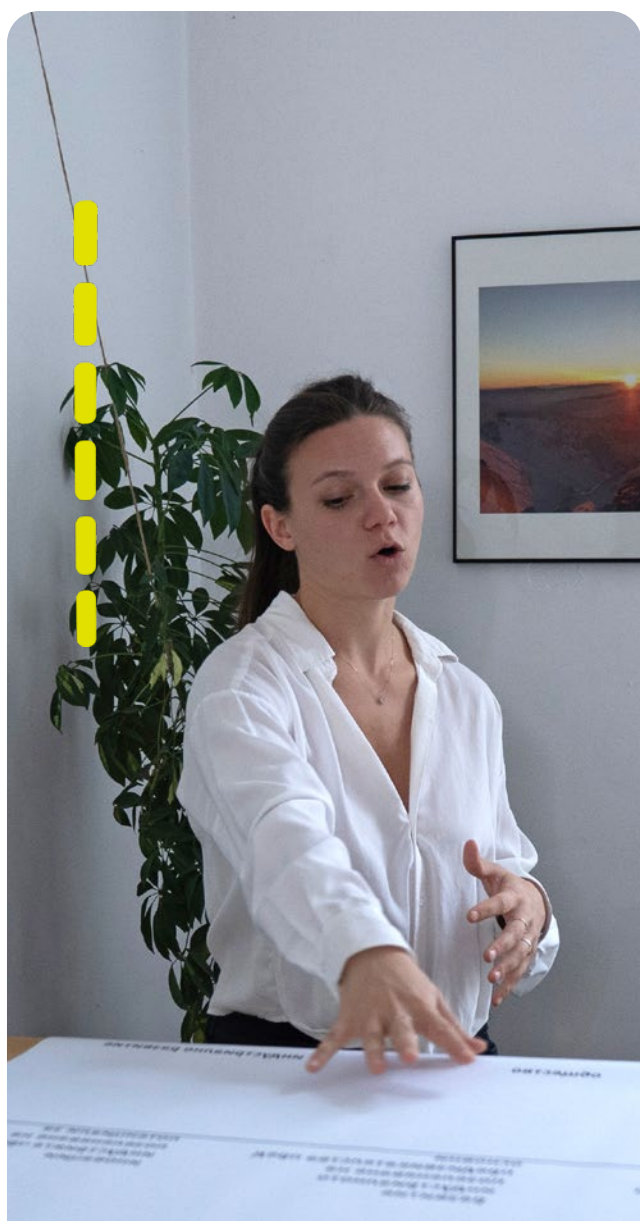
- Lack of adequate upskilling and reskilling programmes
- Weak automation
- The development of industries with net zero emissions is at risk because of the shortage of skilled workers
- Circular models, the bio-based economy and nature-based solutions are at risk because of the chaos in the labour market
- Climate refugees are well integrated and work in industries but that falls short of solving the problems with the lack of manpower
- Serious delays in the digital transformation of businesses
- Difficulties in the uptake of new technologies due to the shortage of skilled workers

- Non-competitive economy
- Market re-orientation because of the problems with the labour market

POSSIBLE LINES OF ACTION IN 2050 IN THE CONTEXT OF THE EXISTING CHALLENGES

- Need for control and monitoring of the impacts on the environment in order to strike a balance in economic results
- Introduction of a systematic sustainable green policy capable of surviving economic and social crises
- Introduction of special investment instruments to support innovation in the labour market
- Introduction of upskilling and reskilling programmes
- Appropriate measures for the uptake of systemic innovation
- Development of innovation to boost green agriculture
- Development of innovation in the agri-food sector
- Development of innovation in the organisational models of industries
- Development of innovation for clean nature
- Innovation focused on resource efficiency
- Potential of geothermal energy to support industry
- Potential of bio-based industries to overcome economic problems

The ideas presented here are summarized and groups together without any claims that they have been approved unanimously by all participants in the panel.





SOLUTION

**Innovations on
resource efficiency**

2.3. Scenario C

Severe manifestations of climate change, well-developed labour market structure

WELL-DEVELOPED LABOUR MARKET, THREAT TO THE ECONOMY AND SOCIAL PEACE POSED BY THE CLIMATE CRISIS

The following experts took part in the development of this scenario:

- **Elena Darieva**, Founder of Nasoca National Sociological Agency
- **Vasil Kanev**, Cybersecurity expert
- **Lyubo Georgiev**, Head of Team Sofia
- **Hristo Hristov**, Expert, Zagore European Digital Innovation Hubs (EDIH) in Stara Zagora
- **Panel moderator: Konstantina Voynova**, Co-founder of SCION

The experts participated in their private capacity rather than as representatives of the institutions or organisations where they worked as of November 2025.

The section that follows contains a summary of the scenario, the main challenges drawn up on the basis of the experts' vision of the scenario, as well as details of their ideas of what the scenario means.

The scenario in summary

CLIMATE AND ENVIRONMENT: climate change is much stronger than it is today; its manifestations overwhelm all aspects of the life and development of communities; government institutions are trapped in addressing the daily crises caused by the severe manifestations of climate change

SOCIETY AND THE STATE: the climate crisis poses serious challenges to various social groups, especially the most vulnerable ones; the massive uptake of digital technologies and automation lead to alienation and divisions in society;

intensified climate migration to Europe, including Bulgaria

ECONOMY: climate change yields a strong adverse impact on the economy; signs of an economic crisis are visible because of the blocked markets as a result of the incessantly alternating climate anomalies

INDUSTRY: serious difficulties in industrial production due to the climate crisis – blocked supply chains and production processes; infrastructure and logistics on the verge of collapse

LABOUR MARKET: well-trained workers for the needs of the market, reskilled workers in the context of the dynamics of digital technologies and automation; problems with wages and jobs due to the climate-blocked economy

CONDITION OF DEMOCRACY: serious risk to the condition of democracy because of the social tensions caused by the climate crisis; the alienation in society threatens the existence of nation states

CENTRAL QUESTION TO CONSIDER: What should Bulgaria do today to prepare adequately for addressing the manifestations of climate change, for mitigating their further impact, and for ensuring labour market flexibility in emergency situations and social crises?

Main challenges

The possible challenges in this scenario are presented on the basis of the experts' ideas

In this scenario, Bulgaria's labour market is well-developed in line with global trends. Automation has been rolled out at appropriate rates and the workers who lost their jobs because of the process optimisation with new technologies have been reskilled and employed in the new economy.

At the same time, economic indicators fare poorly due to the consequences of the abandonment of climate policies. Climate change is not a forecast but a fact of life. Its manifestations pose risks to economic development because industrial production is on the verge of collapse – climate anomalies block production processes and supply chains and threaten workers' lives.

Government institutions are unable to help businesses since they are preoccupied with handling

SOLUTION

Urgent measures for energy efficiency and clean energy production

daily crises. The lack of adaptation measures brings about full stoppage of government bodies because they have no preparedness and plans to respond to climate effects due to the abandonment of climate policies during the period from 2026 to 2050.

It is the successful introduction of digital technologies that gives hope for overcoming climate change. On the other hand, however, the rapid digitalisation and automation uptake leads to alienation in society and encapsulation of certain groups. The technological divide brings about social divide. The dialogue between people and the dialogue between institutions and communities are lost.

Climate change results in growing social tensions because human lives and prosperity are at stake. The rapid digitalisation escalates the fear of the unknown which triggers propensity to non-democratic ideologies that view “the firm hand” as a way to security and peace. The massive climate

migration waves to Europe, including Bulgaria, instigate populism and hence increase social tensions.

The scenario in detail

WHAT HAPPENS TO THE ENVIRONMENT?

- Extreme heat waves and ever more frequent wildfires are the most serious challenges
- Increase of floods, lack of prevention policies
- Increased air pollution that is most visible in the countries like Bulgaria, which are least prepared for the climate crisis
- Reduction of arable land and freshwater resources

- Delays in the introduction of technological innovation that can potentially contribute to addressing the effects of climate change



- Alarming decrease in biodiversity
- Rise of technologies which are harmful to the environment
- Shortage of clean water – massive use of energy and water for the operation of digital products

WHAT HAPPENS TO SOCIETY AND THE STATE?

- Emergence of multicultural and supranational communities living mainly in highlands (autonomous communities) which communicate with peers digitally

- Change of society because of climate change and climate migration
- Increased digital communication leading to social polarisation – algorithms urge us to communicate with people in our own bubbles (quasi bubbles of agreement without any dialogue, which exacerbates the lack of understanding), while labour automation contributes to further isolation
- Social fragmentation due to reduced social contacts
- Political action blockage because of social fragmentation
- Technological divide – labour automation leads to isolating entire communities from development rates and thus worsens social inequalities (economic, ethnic, and educational)
- Demographic change – negative population growth rate in Bulgaria, while the increased world's population is expected to generate climate migration inflows coupled with ageing local population
- Likely social tensions because of the increased climate migration
- Changes in the way of thinking and mentality, growing sense of loneliness
- Ethical challenges related to the spread of AI: the extent to which AI should also be allowed in human relations
- The world is spellbound again: the industrial revolution overtook religious beliefs thanks to science but, on the threshold of the digital revolutions the world is spellbound again as people have less and less understanding of technologies and blind faith in them
- Overcentralised government in the context of unfavourable climate change - authoritarianism

- Rise of tendencies to remove nation states due to the massive spread of digital technologies

WHAT HAPPENS TO THE ECONOMY AND INDUSTRY?

- Big industries integrated in small communities – increased exports, wider use of hydrogen in transport

- Emergence of new industries because of the new technologies and the absence of regulations
- Big data revolution which changes the very nature of social cognition, the way we understand the world



SOLUTION

Creating ecosystems for the production of green technologies

- The economy gets increasingly global, whereas politics remains local – economic perceptions point to a common future (globally) and the national is pushed aside in the name of economic development
- Blockchain development – decentralisation of currencies
- Logistics of critical resources – need for more raw materials
- Introduction of regulations instead of incentives because of the need for action to cope with climate change
- Lack of sufficient energy sources to power automation
- Shortage of raw materials
- Shortage of water for industrial production
- Risk of monopolies over green technologies
- Emergence of cartels which seize control of resources and business activities related to the pressing need for implementing green policies
- Industries controlled by politicians who do not have a green mindset
- Lack of opportunities for environmentally friendly production because of the degraded environment
- Polluting industries imposed by external parties
- Even broader uptake of digital technologies in the economy because of the need for overcoming the consequences of the climate crisis and the shortage of resources – risk of neglecting the human factor

POSSIBLE LINES OF ACTION IN 2050 IN THE CONTEXT OF THE EXISTING CHALLENGES

- Restriction of mining industries and boom of recycling companies
- Immediate closing down of highly polluting industries
- Urgent energy efficiency measures and clean power generation
- Facilitation of the way in which the large-scale innovation development is processed and administered
- Need for cutting-edge innovation to address the pressing need for rapid uptake of green production and green lifestyle
- Great potential for innovation in recycling
- Development of ecosystems to produce green technologies
- Urgent measures to modernise obsolete facilities
- Urgent measures to make polluting industries green
- Establishment of a hydrogen valley to replace the existing Maritsa thermal power plant
- Development of industries which reduce their carbon footprint
- Need for change of human behaviour – green choices of products and services

The ideas presented here are summarized and groups together without any claims that they have been approved unanimously by all participants in the panel.

2.4. Scenario D

Climate change under control, well-developed labour market structure

BEST POSSIBLE DEVELOPMENT OF CLIMATE AND THE ECONOMY, RISK OF LOSING ACHIEVEMENTS BECAUSE OF SOCIAL LETHARGY

The following experts took part in the development of this scenario:

- **Vesselina Kavrakova**, CEO of WWF Bulgaria
- **Zinaida Zlatanova**, Deputy Prime Minister for EU funds and Minister of Justice (2013-2014), Head of the European Commission Representation in Bulgaria (2008-2013), Director for Coordination of EU Affairs and International Financial Institutions (2001-2007) at the Council of Ministers
- **Martin Yankov**, Founder of The Collective Foundation and The Rivers of the City festival
- **Mihail-Ernesto Mihailov**, Business Development Manager, Theoremus
- **Stefan Krastev**, Deputy Mayor of Pernik
- **Panel moderator: Sasha Bezuhanova**, Founder of MOVE.BG

The experts participated in their private capacity rather than as representatives of the institutions or organisations where they worked as of November 2025.

The section that follows contains a summary of the scenario, the main challenges drawn up on the basis of the experts' vision of the scenario, as well as details of their ideas of what the scenario means.



SOLUTION

Measures to promote a culture of sustainability & environmental awareness

The scenario in summary

CLIMATE AND ENVIRONMENT: climate change is put under control and no longer a threat to human lives, the economy and social prosperity; biological diversity has not been fully restored but tangible progress has been achieved

SOCIETY AND THE STATE: the main challenge to society and the state is how to sustain what has been achieved with regard to climate and nature; need for striking a balance between technological advancements and the needs of society and nature

ECONOMY: as the climate policy targets have been achieved, solutions are needed in the economic sphere to prevent recurrence of the depletion of nature and its resources

INDUSTRY: the main challenge is how to ensure sustained green industry and to remember the climate lessons in the context of the higher

standards of living and the increased demand for products

LABOUR MARKET: well-trained workers for the needs of the market, reskilled workers in the context of the dynamics of digital technologies and automation; increased withdrawal of workers from industry because of the uptake of digital technologies and the diminished attractiveness of industrial jobs

CONDITION OF DEMOCRACY: risk of social lethargy and perception of “the end of history” about climate policies because of the achievements in this sphere

CENTRAL QUESTION TO CONSIDER: What measures are needed today to guarantee resilient control mechanisms for government authorities to monitor the climate targets achieved and their development over time; how can the economy work out effective self-regulation mechanisms to balance excess profits and social prosperity?

Main challenges

The possible challenges in this scenario are presented on the basis of the experts’ ideas

At first glance, this scenario seems almost perfect like in a fairy tale and no challenges exist. Is that really the case?

Climate change has been put under control, successful mitigation and adaptation policies have been implemented. Climate is no longer the greatest threat to the world. Some natural disasters happen occasionally but society, businesses and government authorities have installed mechanisms to cope with these challenges. The condition of biological diversity is optimistic as it has not been restored completely but the achievements are tangible.

In the economic sphere, the net zero economy is a reality. Industries have turned green with the introduction of relevant innovation and hence industrial production has increased its competitiveness. Waste has been minimised as much as possible and re-used at the desired levels. Recycling is a common household and business practice. Automation is widespread, but reskilling measures have been implemented. Jobs are secure and well-paid.

Digitalisation has not brought about social divisions and marginalisation. Democracy does not seem to be in danger because the governments during the 2026-2050 period have delivered on their promises to limit global warming within the targets set out in the Paris Agreement on climate.

However, challenges do exist, as is seen in the detailed ideas of the experts below. Although we all want to live in this genuinely positive scenario, it is not free of problems either. On the one hand, they are associated with the massive uptake of digital technologies and their impact on the community. Widespread digitalisation is a potential source of new social tensions. Furthermore, the high automation levels lead to a drastic decrease of the attractiveness of industrial occupations among the young generation, which is fraught with the risk of future manpower shortage.

Another serious risk in this scenario relates to something trivial that might turn into a big threat: how to sustain the achievements in the field of climate and innovation, how to make sure that good results are not wasted. The attainment of climate security and high level of innovation development is not to be taken for granted. Policies are needed to consolidate them continuously because even the slightest socio-political lethargy in this regard could lead to full loss of what has been achieved. Therefore, it is important to install mechanisms to prevent a situation in which we could declare “the end of history” with respect to climate and innovation development and then, all of a sudden, we could wake up in a situation that is worse than the one in 2025, as it happened with “the end of history” in the early 1990s because of the assumed “victory” of the liberal democratic order and the rise of the illusion of peace in Europe till the end of times.

The scenario in detail

WHAT HAPPENS TO THE ENVIRONMENT?

- A comprehensive environmental sustainability framework in place
- The biodiversity loss has not been fully reverted yet: projects for the restoration and conservation of natural ecosystems are underway

- Technological solutions are integrated into urban planning and ecosystem management
- Introduction of AI and IoT in urban planning management
- Use of urban planning solutions which take into consideration climate change: a new green ecosystem exists in urban areas
- Introduction of community-based urban planning to counteract the effects of the disbalanced urban environment and the alienation among people in the digital age: permanent neighbourhood communities are involved in the decision-making process with regard to local public spaces, green areas and services; digital platforms enable citizens to generate ideas and vote on them in real time; municipalities and urban planning groups design any change of the environment jointly; investors integrate the public interest as a mandatory element of their projects through enhanced administrative requirements
- Development of “mushroom cities” which absorb rainfall from any solid surface, expand wet zones and green areas to absorb extreme rainfall, restore urban rivers as active components of water management, and use smart sensor systems (IoT) for early warning and management of climate elements. These cities place the safe and resilient water supply in the centre of their development, turning nature into infrastructure and technology into a continuous adaptation tool
- Interlinked and well-developed regional and global ecosystems
- Accessibility of resources to all citizens all the year round
- Availability of basic resources, especially water, throughout the year
- Promotion of the effective use of resources
- Environmentally friendly lifestyle is practised daily by almost everybody in 2050

- Implementation of legislative measures to support waste reduction and recycling technologies
- Implementation of adaptation policies: the state, communities and businesses are prepared for different climate scenarios
- Successful attainment of the greenhouse gas emission targets

WHAT HAPPENS TO SOCIETY AND THE STATE?

- High levels of public trust in science and government
- Reduced social inequalities
- Flourishing of democratic states
- Development of a framework for guaranteeing access to education to at least 50% of the global population
- Development of a clearcut framework for participation of local communities in initiatives for green development and green lifestyle
- Reduced human impact on the distribution of resources
- Focus on education and economic prosperity which stabilise demographic dynamic patterns
- Development of educational programmes to raise the public awareness of environmental problems and sustainable practices
- Development of sustainable resource management policies and involvement of communities in their implementation
- Development of policies based on participatory democracy and supported by expert opinions

WHAT HAPPENS TO THE ECONOMY AND INDUSTRY?

- Attainment of a net zero economy
- Successful greening of industries
- Development and implementation of sustainable resource management strategies
- Massive uptake of automation
- Widespread hydropower generation, including power for the needs of artificial intelligence
- Development of policies in line with global green initiatives and local industrial needs



- Rise of new industries related to the protection of the environment
- Shortened resilient supply chains
- 100% circular economy
- Development of zero waste industries
- Emergence of new industrial occupations
- Development of policies supporting local businesses and promoting green technologies
- Operating mechanisms to fund innovative green projects and pilot programmes
- Removal of legislative barriers to waste recycling and management

- Introduction of tax incentives and legislative support to recycling initiatives
- Lack of policies to safeguard the results achieved in the greening of industries
- Risk of reverting to unsustainable models
- Resource depletion risk
- Capital concentration risk
- Possible increase of economic differences between individual countries and regions due to the different levels of digitalisation and greening of industries, and to the capital concentration risk
- Lack of operational global structures
- Loss of memory about the damage caused by climate change
- Loss of memory about the importance of innovation as a continuous process and the need for its further support
- Risk of stagnation of the educational system in the context of social and economic challenges
- Focus on automation and highly skilled labour in conventional industries
- Shortage of interest in industrial occupations due to automation. Shortage of skilled manpower in new industries. Technological advancement is faster than the adaptation of manpower
- Fragmentation of local business, which might hamper collective action
- Resistance to change in conventional industries
- Addressing the problems related to the ageing population through the development of social and health industries
- Risk of geopolitical conflicts which might affect the stability of industries

POSSIBLE LINES OF ACTION IN 2050 IN THE CONTEXT OF THE EXISTING CHALLENGES

- Need for consolidation of participatory democracy in the future policymaking
- Development of policies to support green industries and sustainable practices in line with the ongoing dynamic challenges
- Introduction of a common approach to identifying and addressing public needs and the access to resources
- Introduction of measures to promote sustainability culture and environmental awareness among citizens
- Need for innovative industries focused on the protection of the environment and reuse of resources in 2050 and beyond
- Need for legislative changes to sustain the recycling rates even after the targets have been achieved
- Need for a global framework to support local green initiatives and their effective implementation
- Introduction of models to empower local communities and to promote cooperation among small enterprises with a view to overcoming economic fragmentation
- Development of a plan to study international partnerships so that to boost local initiatives and to attract investment in green technologies
- Need for promoting the integration of technologies in the urban and ecosystem management
- Need for implementing measures to strike a balance between automation and job creation. Need for a mechanism to align legislative processes to technological advancement
- Research into the impact of automation on employment and the development of social services for the ageing population

- Development of educational systems in line with the future labour markets
- Development of training programmes to upskill workers
- Development of a regulatory framework covering both human and non-human management entities
- Diversification of energy sources to reduce the risk of abandonment of climate policies
- Educational and public awareness programmes promoting sustainability culture

The ideas presented here are summarized and groups together without any claims that they have been approved unanimously by all participants in the panel.



3.

MISSION INDUSTRY: WHAT DO EXPERTS RECOMMEND



The final part of this brochure presents the experts' recommendations on the greening of industry in Bulgaria: what should be done today and in the years to come so that to reform industries and safeguard their competitiveness in 2050. The measures proposed contain general guidelines on how to improve the environment. The recommendations are grouped together in three sections: what central authorities (Council of Ministers and National Assembly) need to do, what local authorities (mayors and Municipal Councils) need to do, and what businesses need to do.

3.1. Recommendations to central authorities

Recommendations given by the experts to central authorities – what measures the Government and the National Assembly need to take for greening industry with a view to ensuring its competitiveness in 2050

- Reinstatement of the position of Deputy Prime Minister for Climate: reinstate the position of Deputy Prime Minister for Climate to coordinate Bulgaria's transition to a society and economy with net zero emissions
- Pursue a long-term consistent policy for investment in bio-based production, energy-efficient industrial infrastructure, circular technologies and resource efficiency
- Establish a Green Industry and Innovation Board at the Council of Ministers with representatives of the stakeholders, including line ministries and agencies, municipalities, businesses, the financial sector, academia, and civil society organisations
- Set up Research Boards at all line ministries for making science-based decisions
- Pass an industry greening law where innovation and people play a leading role (creation of secure and well-paid jobs)
- Turn the greening of the economy into a national goal and implement a promotion campaign to attract resources from foreign investors
- Open a niche for Bulgaria's development among the green industries in the world and promote it to attract investors – analyse where Bulgaria has the greatest potential and use it to attract foreign investors
- Develop a public awareness campaign to present the green transition plan for Bulgaria – explain what Bulgaria wants to achieve and why it is important for the economy, for workers, and for society as a whole
- Introduce a mechanism to monitor the compliance with statutory requirements and to impose real sanctions in cases of non-performance, including sanctions on senior officials at institutions
- Introduce a mechanism to control the spending of public resources so as to ensure that they are used for measures which are relevant to society and the economy
- Develop a comprehensive mechanism for the uptake of green innovation in industry which, on the one hand, will provide the necessary funding, human resources, and access to laboratories for testing and development of ideas and, on the other hand, facilitate the uptake of innovation. The establishment of a green innovation fund is one of the options for the funding part. Develop a green innovation platform of the one-stop-shop type
- Obligate government-funded green startups to incorporate strategic international partnerships in their initiatives
- Establish an Existential Opportunities and Risks Agency (EORA), bringing together the functions of the Ministry of Innovation and Growth, the Ministry of E-government, and the National AI Security Agency with the following mandate: (i) develop a national AGI and ASI strategy beyond the compliance with the EU Artificial Intelligence Regulation (Artificial Intelligence Act); (ii) position Bulgaria as a global regulatory sandbox to test legal/ethical rules for autonomous systems
- Adopt an Innovative Autonomous Areas Act (IAAA) to create a legal sandbox in selected depopulating or coal mining regions
- Adopt a Resource Security Act
- Develop a permanent mechanism to train teams working at ministries for the development of more adequate funding programmes, more adequate control and, ultimately, better absorption for EU funds for innovation and greening

 SOLUTION

Reinstatement of the position of Deputy Prime Minister for Climate

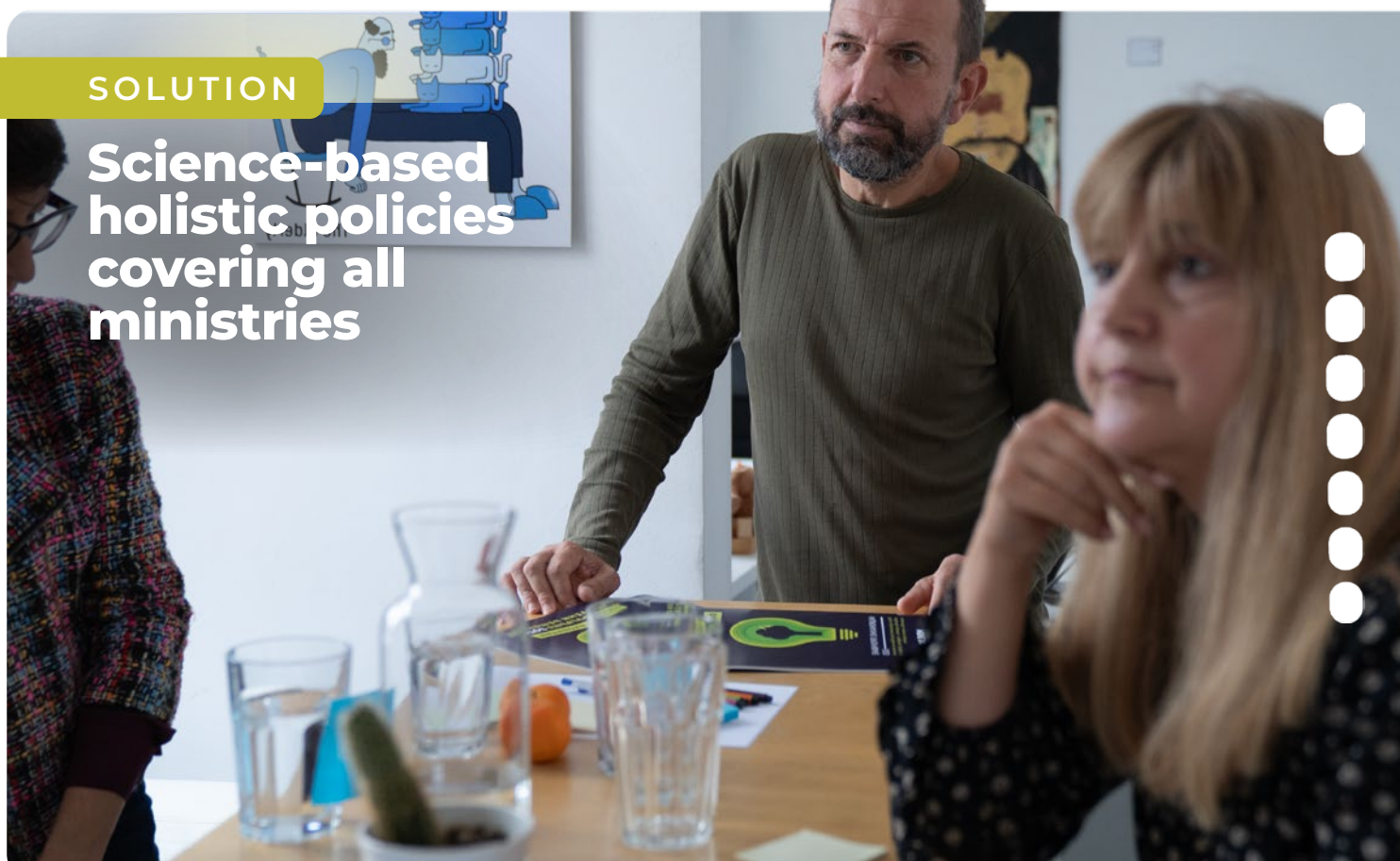
- Reduce the administrative burden in the development of innovation
- Reduce the administrative burden in the development of green projects
- Establish “fast tracks” for exchange of ESG data between enterprises and investors
- Introduce corporate incentives for the uptake of green innovation
- Introduce a requirement for at least 60% of the resources allocated to public procurement contracts to be used for “green projects”
- Introduce bonus points in the Public Procurement Act/ grant allocation procedures for the implementation of green solutions/technologies (where applicable)
- Amend the Investment Promotion Act by introducing a “green certificate”
- Amend the Waste Management Act by inserting the following requirements:
 - Immediate introduction of a beverage packaging deposit system
 - Introduction of a modern public real-time information system for transparency and traceability of waste not only for regional municipal waste systems but also for all operators of industrial, building and hazardous waste in the process of its reduction, delivery, transportation, acceptance for recycling, temporary storage, treatment, waste-to-energy management, and disposal
 - Establishment of a national platform as a virtual map of the types and quantities of waste by sources and the opportunities for its resource use in a circular green economy
- Promote the use of alternative fuels like hydrogen
- Develop a programme for Bulgaria’s participation in international coalitions and initiatives to support the greening of the economy – participation of experts from line ministries and municipalities, as well as representatives of businesses, academia and the civil society sector
- Speed up the process of Bulgaria’s accession to the Organisation for Economic Co-operation and Development (OECD)

- Implement measures for real decentralisation to empower municipalities
- Introduce satellite surveillance of big polluters for certain components of the environment
- Introduce a system for independent monitoring of pollution and compliance control of the targets in this sphere
- Exercise effective control and monitoring of the targets to achieve a low environmental footprint and positive impact of industries on the environment
- Introduce an educational programme for green occupations with a high added value
- Give priority to investment in educational programmes training students to acquire the skills needed in a net zero economy and society
- Give priority to green industrial training at secondary vocational schools, including dual education, to demonstrate new technologies
- Develop a programme for entrepreneurial training at schools
- Introduce a school programme for financial literacy
- Develop partnerships/communities based on green business causes – ministries should facilitate the establishment of such communities the causes of which are applicable to education and culture
- Introduce measures to transform e-government from a buzzword to reality, including elimination of corruption opportunities through digital technologies
- Minimise corruption through a radical reform of the judiciary
- Implement real measures to substantially reduce the gray economy
- Reform regulations concerning the access of refugees to employment and citizenship
- Improve the measures to protect intellectual property rights and neighbouring rights

The ideas presented here are summarized and groups together without any claims that they have been approved unanimously by all participants in the strategic foresight exercise.

SOLUTION

Science-based holistic policies covering all ministries



3.2. Recommendations to local authorities

Recommendations given by the experts to central authorities – what measures mayors and Municipal Councils need to take for greening industry with a view to ensuring its competitiveness in 2050.

- Establish municipal/regional innovation centres – there should be at least one centre in each administrative region and, subsequently, in each municipality
- Develop regional platforms to promote local green industrial innovation and to foster business-to-business partnerships
- Bring municipalities together on the basis of their resources and ecosystems rather than on a geographical basis
- Proactive attitude of municipalities to regional specialisation – a campaign to this effect to be carried out by a group of municipalities or the National Association of Municipalities in the Republic of Bulgaria (NAMRB)
- Proactive attitude of municipalities to achieve decentralisation
- Incorporate targets relating to resource efficiency, greening of local industries and a mechanism to achieve these targets in municipal documents and strategies
- Develop municipal plans for carbon-neutral municipalities by 2050 (currently, only two municipalities have such plans). Decarbonisation plans should cover, inter alia, measures to provide financial resources, including green bonds
- Involve municipal experts in the implementation of green measures – provide funds to attract a sufficient number of experts for the key municipal tasks to implement measures for reducing greenhouse gas emissions and adapting to climate change. Currently, many municipalities have no experts in green matters at all; what they have is a limited number of staff (typically one or two persons) whose job descriptions refer to the obsolete “ecology” model, implying basically waste management operations and maintenance of green areas (plus, possibly, climate policies, if they have time to engage in them)
- Set up municipal public boards to discuss long-term public and industrial objectives beyond political mandates with representatives of local businesses, academia and civil society organisations. Introduce the quadruple helix model. Local government authorities should collaborate proactively with the other social groups involved in the greening of industries. Municipal administrations should start thinking and working autonomously in real close cooperation with local communities and industries. Municipal officials should overcome the mentality of waiting for permission “from above” for each and every action they undertake. Put an end to justifying failures with the centralised administration at the municipal level.



- Involve and mobilise the local population for the green transformation, including the greening of local industries, through regular meetings in the communities
- Map and evaluate ecosystem services
- Develop urban digital twins in the climate adaptation context
- Open municipal systems to green innovation testing
- Introduce municipal measures to support companies which engage in integrating innovation in business
- Provide tax concessions to green businesses and green innovation

SOLUTION

Unification of municipalities based on resource and ecosystem principles



- Identify the ownership rights to all public facilities (whether they belong to the state or the relevant municipality) and plan their good governance
- Establish municipal carbon-neutral industrial parks. The Ministry of the Economy and Industry and the Ministry of Innovation and Growth should support the process
- Ensure the climate neutrality of all municipal industrial areas through comprehensive use of renewable energy sources
- Connect industrial facilities to district heating systems
- Work out municipal programmes to develop new green industries through seed funding
- Develop municipal sandbox programmes for local green entrepreneurs
- Establish a fast-track procedure for investment in green industries
- Develop public-private partnerships for green innovation with a mechanism which municipalities could use to support the development and uptake of green innovation, while protecting public interests
- Implement municipal measures to develop industrial symbioses (inter-municipal public-private partnerships)
- Use the EU taxonomy for classification of all resources available in the municipality and then provide targeted investment in projects and systems
- Use of good practices of other EU cities for industrial greening measures
- Invest municipal resources only in green processes/solutions



SOLUTION

Attracting experts to municipalities to implement green measures

- Ensure the participation of municipalities in ESCO contracts or other financial instruments leading to the implementation of financially sound and appropriate solutions so as to turn greening into a daily practice
- Implement municipal measures to support and retain “young talents”
- Set up a “federation” of municipalities from former coal-mining regions to facilitate investment in green industries on degraded land
- The municipalities in just transition regions should use the resources made available from the National Recovery and Resilience Fund, the Just Transition Fund or the Social Climate Fund to pilot the first Autonomous Habitat that could focus on cellular agriculture or bioengineering, building on the existing energy infrastructure and the technical expertise released from closing down power plants
- Attract green investment into coal-mining regions and provide information on reskilling opportunities (70% of the workers to be reskilled would engage in the process provided that there is clarity on their future employment)
- Active use of resources from the Just Transition Fund for adaptation of local communities
- Introduce strict regulations and control of any new buildings in the urban environment to ensure rainfall retention, separate sewerage, and contribution to the urban green system
- Introduce incentives for property owners to retain rainfall before it reaches the sewerage system or rivers and floods the city
- Take stock of nature-based solutions in the municipality and develop plans for their shared management
- Promote the establishment of energy cooperatives and the citizens’ participation in them
- Introduce municipal measures to reduce the economic dependence and “modern slavery” through search for supranational financial instruments
- Digitalise municipal administrations – the government should support municipalities, especially the smaller ones, in this process
- Develop municipal green artificial intelligence

The ideas presented here are summarized and groups together without any claims that they have been approved unanimously by all participants in the strategic foresight exercise.

3.3. Recommendations to businesses

Recommendations given by the experts to central authorities – what measures businesses and the financial sector need to take for greening industry with a view to ensuring its competitiveness in 2050.

- Business organisations should work out a plan for the development of industry in Bulgaria, considering the different climate and technology scenarios
- Businesses should develop voluntary digitalisation and greening standards based on self-regulation
- Set up business associations in major industrial sectors for their greening. Set up associations of green entrepreneurs and researchers in the field of green technologies
- Companies should consider the benefits of the various types of collaboration for greening industry, such as establishing associations, cooperating, or clustering for common projects/objectives/approaches
- Businesses should open industrial laboratories and test areas for green technologies (materials, water, energy, circular models)
- Companies should channel investment into circular processes and technological innovation, as well as into optimisation and improvement of the energy and resource efficiency
- Businesses should proactively introduce carbon accounting based on self-regulation
- Businesses should proactively re-use recycled materials and recycle waste (parallel to any upcoming EU regulations in this field)
- Businesses should develop a mechanism to ensure transparency of supply chains and quantifiable accounting in accordance with uniform standards based on self-regulation
- Issue green bonds to financing the greening of industrial production and the uptake of innovation in this regard
- Introduce a biodiversity credit system based on self-regulation
- Companies should proactively seek opportunities for collaboration with science in the implementation of green innovation
- Companies should proactively seek opportunities for international cooperation to exchange experience in the use and scaling up of green innovation in industrial production
- The financial sector should revisit its risk assessment criteria for investment in green technologies at SMEs; there should be less conservatism in the funding of small and medium-sized enterprises developing green technologies because, at present, the existing rules are good for big companies but quite prohibitive for SMEs





- The financial sector should include climate and biodiversity as a risk or condition for banking products (loans, investment products, etc.)
- The financial sector should give priority to supporting companies which reduce their footprint (through financial instruments)
- Business organisations should give priority to establishing bold international partnerships for pilot business ideas to be developed within the territory of Bulgaria
- On the basis of self-regulation, companies should allocate some part of their profit, albeit small, for direct investment in innovation or in organisations scaling up such resources
- Companies should create a position of green innovation development manager and its AI twin to keep abreast with their competitors
- Business organisations should monitor the attainment of green targets by government authorities at the central and local levels
- Business organisations should insist on Bulgaria's active participation in the EU decision-making processes. They should be on the alert to ensure that green development resources are not diverted for defence purposes
- Business organisations should introduce a mechanism for dialogue with the government on industrial greening issues and on the disclosure of the results achieved
- Business organisations should insist on simplified regulations concerning the uptake of green technologies and commercialisation of green products
- Business organisations should insist on easier conditions for funding the greening of industry and for boosting innovation
- Business organisations should insist on introducing green public procurement
- Business organisations should insist on giving priority to introducing energy efficiency measures, developing local supply networks and circular economy
- Business organisations should carry out awareness campaigns targeted at consumers to promote the benefits which the greening of industry brings
- Business organisations should develop a programme to explain ESG reporting and to help companies in its implementation (including voluntary implementation)
- Business organisations should insist on promoting pilot nature-based solutions, including public-private partnerships for their implementation
- Businesses should proactively seek potential partnerships (private/public) for the use of waste materials/resources. An example in this regard is the use of the heat generated in server rooms for household heating in Scandinavian countries
- Develop a worker reskilling and upskilling programme – employers' organisations should work out a free reskilling programme to train the workers needed in net zero industries
- Develop a worker training programme in the field of green innovation
- Develop English language training programmes for industrial workers
- Develop programmes for closer cooperation with universities to provide more internships for students on matters relating to digitalisation and the green transformation of industries
- Develop worker training programmes in financial literacy

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ABOUT MISSION GREEN INNOVATIONS

This brochure is part of Mission Green Innovations - an initiative by MOVE.BG aimed at supporting the development of Bulgaria's innovative potential. Through various activities and initiatives, **Mission Green Innovations** supports green innovators in the fields of entrepreneurship, science, and the civil sector.

Follow the initiatives within Mission Green Innovations [here](#).

ABOUT MOVE.BG

MOVE.BG MOVE.BG is a platform for value creators and a think-and-do tank for innovative solutions. We are looking for workable ideas for social transformation, forging pathways into sustainable development and enabling a culture of constructive dialogue and participatory leadership.

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