



# FUTURE ENERGY FORUM

## ASTANA EXPO-2017 MANIFESTO OF VALUES AND PRINCIPLES CALL FOR GLOBAL ACTION

AUTHORED BY THE STEERING COMMITTEE  
FOR THE FUTURE ENERGY FORUM

September 2017



**Building the Future.  
Saving the Planet.**



**DR RAJENDRA PACHAURI – SC CHAIRMAN**

**President, World Sustainable Development Forum**

Dr Pachauri is currently the Chief Mentor of the Protect Our Planet Movement and President of the World Sustainable Development Forum. He chaired the Intergovernmental Panel on Climate Change (IPCC) from 2002 up until 2015 and received the Nobel Peace Prize in 2007 on behalf of the Panel with Al Gore. He is the former Chairman and Founding CEO of the New Delhi-based The Energy and Resources Institute (TERI).



**DR KANAT BAIGARIN**

**Vice President for Innovation and Research, Nazarbayev University**

Dr Baigarin is a Fellow of the Moscow Institute of Physics and Technology. He has also worked as a consultant for the Global Environment Division of Rockefeller Foundation on energy efficiency and renewable energy projects in the CIS. From 2000 to 2008, he was the Head of the Climate Change Coordination Centre and Consultant for the Executive Office of the President of the Republic of Kazakhstan in 2008. He is also a part of the IPCC community that was awarded the Nobel Peace Prize in 2007 as a focal point of IPCC.

**MS PRISCILLIA ANDRIEU**

**Special Advisor to the President, Energies for Africa**

Ms Priscillia Andrieu advises former French minister Jean-Louis Borloo in his foundation to electrify the African continent. She works closely with international organizations, governments and institutions such as the IWF and World Bank. She is a famous professor and lecturer on strategy and political science in French business schools and a board member of the organization "Protect our Planet". She authored a book on energy transition in Africa and works as a journalist and producer on an English-speaking TV channels.



**MEMBERS OF THE STEERING COMMITTEE**



**DR NEBOJSA NAKICENOVIC**

**Deputy CEO, International Institute for Applied Systems Analysis (IIASA)**

Dr Nebojsa Nakicenovic is Deputy Director General and Deputy CEO of the International Institute for Applied Systems Analysis (IIASA) and former full Professor of Energy Economics at Vienna University of Technology. Among other positions, he is Executive Director of The World in 2050. He serves on the editorial board of ten scientific journals. Professor Nakicenovic holds Bachelor and Master degrees from Princeton University, New Jersey, USA and the University of Vienna, where he also completed his Ph.D. He also holds Honoris Causa PhD degree in engineering from the Russian Academy of Sciences.

**DR SALOMÓN CHERTORIVSKI WOLDENBERG**



**Secretary of Economic Development, Secretariat of Economic Development of Mexico City**

Dr Chertorivski is the Secretary of Economic Development for Mexico City where he leads the city's initiative to increase foreign direct investment and strengthen global competitiveness, while managing the complex issues related to trade, investment and urban planning of one of the largest and most dynamic cities in the world. His career in the public sector extends for over 19 years.



**DR. UZAKBAY KARABALIN**

**Deputy Chairman, Association of legal entities "KAZENERGY"**

Throughout his career Dr. Karabalin has mainly dealt with natural gas issues. He was involved in development of the Amangeldy gas field. In 1997 he took up a position in KazakhOil company. Since February 2002 – Chairman of the Board of Directors of JSC "NC" KazMunaiGas. On March 12, 2003 he was appointed President of JSC "NC" KazMunaiGas. In June 2008 he was appointed General Director of JSC "MangistauMunaiGaz." Since December 2009 he held the position of President of the Kazakh Institute of Oil and Gas (KING). He served as Minister of Oil and Gas from July 2013 till August 2014.

**MR SHIGEO KATSU**

**President, Nazarbayev University**

Since December 2010, Mr Shigeo Katsu has served as President of the Nazarbayev University in Astana, Kazakhstan, a national university founded in June of the same year, designed to serve as the country's flagship academic institution with aspirations to become a global-level research university. Prior to this appointment, Mr Katsu worked at the World Bank for more than 30 years.





## HON MIKE RANN

### CEO, Rann Strategy Group

The Honourable Mike Rann was Premier of South Australia for almost a decade and one of the world's first Ministers for Climate Change. He pushed South Australia from zero renewable energy to a position of international leadership, with almost 50% of its power now generated by renewables. He was Chair of Low Carbon Australia and was Co-Chair of the UK Climate Group's states and regions network and was appointed by Tony Blair to its international board.



## PROF GEORGE F. SMOOT

### Professor, University of California Berkeley

Professor George Smoot is an experimental astrophysicist who won the Nobel Prize in Physics in 2006 for his work on Cosmic Background Explorer with John C. Mather that led to the measurement "of the black body form and anisotropy of the cosmic microwave background radiation". Honours include: NASA Medal for Exceptional Science Achievement, Kilby Award, Lawrence Award, Nobel Prize in Physics 2006.



## DR YOUBA SOKONA

### Special Advisor for Sustainable Development, South Centre (Geneva)

With over 35 years of experience addressing energy, environment and sustainable development in Africa, Dr Youba Sokona is a highly recognised, global climate leader. He is currently Special Advisor for Sustainable Development at the South Centre. He has a proven track record of organisational leadership and management, for example, leading the conception, development and initiation of the Africa Renewable Energy Initiative, as Coordinator of the African Climate Policy Centre (ACPC) and as Executive Secretary of the Sahara and the Sahel Observatory (OSS).



## PROF DR KLAUS TÖPFER

### Founding Director, Institute for Advanced Sustainability Studies (IASS)

Professor Dr Klaus Töpfer has served as Founding and Executive Director of the Institute for Advanced Sustainability Studies in Potsdam. Before this, he was the Executive Director of the United Nations Environment Programme (UNEP) in Nairobi and Under Secretary General of the United Nations. In the national political field has held the positions of German Federal Minister for the Environment, Nature Conservation and Nuclear Safety (1987 to 1994) and of Federal Minister for Regional Planning, Civil Engineering and Urban Development (1994 to 1998). He was a member of the Bundestag.

## DR VESELIN VUKOTIĆ

### Rector, University of Donja Gorica

Professor Vukotić is a Montenegrin economist, professor, politician, and founder of Donja Gorica University, established in 2007. He is the founder and director of a prestigious international postgraduate programme in Entrepreneurial Economics; he authored the concept of PMB studies at the Economics Faculty of the University of Montenegro. Professor Vukotić was also the director of the programme in Entrepreneurship and Entrepreneurial Finance and founder of the Economic Reform Network (ISSP, CEED, CARA).



## ACKNOWLEDGEMENT

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# ASTANA EXPO-2017 MANIFESTO OF VALUES AND PRINCIPLES

## 1. FUTURE ENERGY – A GLOBAL PERSPECTIVE

The world's energy future will be essentially determined by

- 1.1 Meeting SDG 7 which states "Ensure access to affordable, reliable, sustainable and modern energy for all".
- 1.2 Reducing emissions of greenhouse gases by 40% to 70% over 2010 levels by 2050 and to zero or negative levels by 2100 (IPCC Fifth Assessment Report).
- 1.3 Ensuring energy access for those who have no electricity by 2030 since about one-fifth of the world population.
- 1.4 Proving clean forms of energy by 2030 to approximately three billion people who still use solid fuels for cooking and other domestic applications.
- 1.5 Reducing air pollution levels by 2030, both outdoor and indoor, consequent on combustion of fossil fuels and biomass, which are currently causing one eighth of total global mortality including 3.3 million deaths linked to indoor air pollution and 2.6 million deaths from outdoor air pollution (WHO).
- 1.6 Ensuring secure supply of modern energy by diversification to different forms and to secure geographical locations.
- 1.7 Introducing a new business model of advanced technologies transfer for developing countries by opening other markets including developed states.

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## 2. FUTURE ENERGY AND TRANSFORMATION TO HIGHER EFFICIENCY LEVELS

Patterns of energy production and use would require major transformation in the future with substantial improvements in efficiency of conversion in every sector of the economy, particularly in the end use. This transformation if carefully planned and executed can be achieved at negative cost. This would involve the following between now and 2030:

2.1 A 40% to 45% improvement in the efficiency of energy use in newly constructed buildings and a 15% to 20% improvement through retrofits in existing buildings, because not to bring about such improvements would lock society into capital assets which use energy inefficiently for long periods.

2.2 A major transformation of the industrial sector towards higher efficiency of energy use with an improvement of energy efficiency by 30%.

2.3 A substantial upgradation of energy efficiency of household appliances by 25%.

2.4 A major shift to public transport, a 25% improvement in fuel efficiency of vehicles, introduction of highly-efficient electric vehicles and especially greater use of pedal power and pedestrian mobility to improve the efficiency of the transport sector by 40%.

2.5 The transformation required can be achieved through regulation (buildings, motor vehicle fuel efficiency, household appliances), expansion of infrastructure (public transport, bicycle paths, pedestrian facilities) and policies for the shift from basic industry to skill-intensive production.

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## **3. TRANSITION TO LOW CARBON AND ZERO CARBON SOURCE OF ENERGY SUPPLY**

A low- or no-carbon future needs to be reached with a sense of urgency, particularly to reduce the future risks from projected impacts of climate change. This would involve:

- 3.1 Beginning right away with a move to rapid establishment of large scale centralized power projects with suitable storage using solar, wind, biomass, geothermal, and ocean energy as well as solid waste. In the initial period, major expansion of solar photovoltaic, concentrated solar power, offshore wind and decentralized biomass based energy would take priority. Over time, focused research, development and demonstration projects should be undertaken to ensure the viability of new technologies for harnessing other renewable resources.
- 3.2 Financing of this transformation must be achieved through carbon pricing, cap and trade systems, a suitably funded Green Climate Fund at the international level and through government programs at the national level. Public policy induced de-risking of low carbon investments and sustainability measures would also be needed for financing the transformation.
- 3.3 Renewable Purchase Obligations and suitable Feed-In Tariffs should be put in place for the stimulation of markets for renewable energy supply. Support to assist poor consumers would be essential to reduce any added financial burden that this may impose on them.

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## 4. THE HUMAN FACE OF ENERGY TRANSFORMATION

- 4.1 Today, in Africa alone, over two thirds of the population is under 25 years old, implying that almost 900 million inhabitants on the continent must be fed, educated, cared for, and employed. Africa requires a special focus in international initiatives.
- 4.2 Youth have historically been the power behind the strongest and most significant movements and initiatives across the planet. Hence, we must allow the youth to inspire us. The younger generation educated on the issues related to their future (climate change and its impacts such as sea level rise, increase in climate refugees, etc.) will achieve what adults have not be able to for creating a sustainable and prosperous future for the planet and sustainable energy solutions.
- 4.3 We must develop among young people a sense of responsibility towards the protection of our planet and the significance of a sustainable energy future. Educational institutions are the main actors of a massive and long-term reboot in mindsets. Homes, and more specifically mothers, must be the supporters of a new form of energy consumption.
- 4.4 Women turned microcredit in developing countries into a worldwide success, improving the lives of millions of households. Women's empowerment and entrepreneurship is crucial for delivering proper and reliable energy solutions to the most vulnerable (and often forgotten) communities. Because women prioritize education, health and sustainability, our future relies on their ability to foster responsibility in new generations.

### KAZAKHSTAN AS A LEADER IN ENERGY TRANSFORMATION

Kazakhstan has shown vision and bold leadership by staging Expo 2017 with the theme of 'Future Energy'. As a legacy of Expo 2017 Kazakhstan now needs to demonstrate its leadership through transformation of its own energy supply and use. This would be a compelling example for others, since Kazakhstan is a hydrocarbon producer and exporter. Before the Paris agreement the Government of Kazakhstan had set an unconditional target of 15% reduction in GHG

emissions by 2030 compared to 1990. Its conditional target of 25% was subject to additional international investments, access to low carbon technology, clean climate funds and flexible mechanisms applicable to economies in transition. Kazakhstan must put sufficient efforts to reach these ambitious targets. This would require rapid transformation and improvements in energy efficiency in the industrial sector, which consumes 63% of energy in the economy and major expansion of

solar and wind energy in the country. Industrial transformation diversifying into value added products and services would generate employment, improve the environment and enhance human welfare.

Kazakhstan should also develop carbon capture and storage (CCS) technologies as well as the use of hydrogen as an energy carrier.

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## 5. ENERGY FOR AN URBANIZED WORLD

- 5.1 Urban agglomerations – cities – which currently account for 54.5 percent of the world’s population, a proportion that is expected to increase to 60 percent by 2030, are the greatest consumers of energy on the planet. Especially in the Global South, energy needs per capita are significantly higher in urban than in rural areas. Therefore, the role of local and city governments is crucial in promoting policies and actions for sustainable energy systems. Mexico City, for example, consumes 22 percent of all energy in Mexico.
- 5.2 The role of cities in combating climate change was appropriately acknowledged in the Paris Agreement. However, efforts need to be increased and the level of ambition enhanced for the energy transition in cities. Given the urgency of immediate action, city governments need to take urgent initiatives particularly for converting waste to energy, placing a rational price on externalities associated with fossil fuels, and moving from fossil fuels to renewable sources, both for centralized supply as well as local applications. Decarbonizing the transport sector is one of the highest priorities for benefit of all.
- 5.3 New knowledge needs to be generated and applied to alter the location of living spaces and employment centers, so that mobility demand is minimized, and emphasis laid on public transportation using clean energy sources, expanded facilities for pedestrians and extensive use of bicycles.
- 5.4 New building structures and construction should employ new knowledge and considerations of sustainability. Intensive training of builders and architects as well as incentives and regulations should be adopted for improved energy efficiency in new buildings and installing retrofits in old buildings.



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## 6. POLICIES AND INSTITUTIONS

6.1 Policies at every level of government and involving every stakeholder group, including business, academia and civil society, need reorientation to focus on the UN's Sustainable Development Goals (SDGs) and to ensure win-win outcomes for all. SDG7 is one of the central pillars as it is related to essentially all other goals.

6.2 As a lasting legacy of Expo 2017, a new institution should be established at the site of the Expo in Astana called the Global Future Energy Institute, which would provide information and knowledge relevant to the global implementation of this manifesto. This would build on a proposal put forward by President Nursultan Nazarbayev at the 70th session of the United Nations General Assembly to establish an international center for the development of green technologies and investments in Astana on the basis of the EXPO 2017. Such an Institute should be attached to the

most pre-eminent university in Kazakhstan, but with clear and formal links to other prestigious institutions internationally. It should annually organize an international event to review, in partnership with other international institutions, progress achieved and plans laid to implement this manifesto. It should disseminate information on the road travelled and the distance to be covered on a regular basis.

6.3 The Global Future Energy Institute should provide an annual award which may carry the title "Astana Future Energy Award", which recognizes individuals and organizations for outstanding contributions on policy initiatives, enlightened advocacy or technology innovations, to be determined by a jury of eminent and knowledgeable persons. This Award should get widespread recognition and project Astana as its source, similar to Stockholm and Oslo for the Nobel Prize.

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## **7. LIFESTYLES AND VALUES AND A NEW MISSION FOR HUMANITY**

7.1 The desired energy transformation can only be achieved with a totally altered set of values, norms, ethics and lifestyles on the part of human society. Individuals, institutions and communities must assume responsibility for the negative impacts of energy production and use. All entities on planet earth must assess and reduce their carbon footprints through the transformation of energy production and use.

7.2 The mission of saving Planet Earth must be the new mission which will capture the imagination and minds of young people. School programs for all levels of study, including universities, must make this mission popular among young people. Broadening knowledge on the risks of the devastation of our global commons on the one side and encouraging creativity and innovation among young people in the field of new sources of energy on the other, are critically important foundations of the new mission human society must urgently adopt and the new lifestyles and values which are to be pursued.

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## **8. INTERNATIONAL COOPERATION AND COORDINATION**

There is significant value in international cooperation, strategic partnerships and functioning energy markets across regional corridors in the interest of all. Sharing experiences and technologies and encouraging cross-border investments will accelerate the transformation. Achieving these objectives will be facilitated by closer dialogue and collaboration among governments, the private sector, financiers,

and civil society and among the various sectors that will interact to deliver on the 2030 Agenda. The proposed Global Future Energy Institute should take on the role of monitoring developments which constitute international cooperation and coordination, and disseminating appropriate information on the subject for the use of all stakeholders.

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### THE GLOBAL FUTURE ENERGY INSTITUTE

**Initiated by the Future Energy Forum and managed by the Nazarbayev University in cooperation with a Global Research Network**

This Institute could be located in one of the buildings under the concept of EXPO post-exhibition use. Such an institute should be attached to the Nazarbayev University, but with clear and formal links to other prestigious institutions internationally. The Institute may also be a joint venture of several universities, but located in Astana. As a model, it is possible to use Carnegie Mellon University or other distinguished universities that have campuses in foreign countries. For instance, Carnegie Mellon arranges for some senior staff to spend several months to a year in Qatar, as well as employing senior US staff on

contract who spend several years in Qatar working alongside local teaching and research staff. This ensures common standards at the highest level as well as the cross fertilization of expertise. It is essential that the Institute is headed by an expert with an international reputation.

The focus of the Institute could be on energy efficiency or renewable energy storage. It should have an Academic Advisory Council and very importantly have a small but distinguished International Board of Trustees who will bring a sense of authority and prestige to the Institute. The Institute must start with a guaranteed funding base provided by the Kazakhstan government. Its independence must be guaranteed by statute as well as the host university's constitution.



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### **THE POST-EXPO GREEN FUND FOR A SUSTAINABLE FUTURE**

#### **A Project of the Financial Center Astana**

The post-expo green fund for a sustainable future would help assist Kazakhstan, Central Asian countries in adaptation and mitigation practices to counter the consequences of climate change. The objective of the green fund is to support projects, programs, policies and other activities in the region. It is intended that the green fund would help achieve goals set by the Paris Agreement and UN SDGs.

The green fund seeks to promote a paradigm shift to low-emission and climate-resilient development, taking into account the needs of nations that are particularly vulnerable to climate change impacts.

Responding to the climate challenge requires collective action, including both public and private sectors. Green funds activities should

be aligned with the priorities of Kazakhstan through the principle of country ownership, and the green fund must establish a direct access modality so that national and sub-national organizations can receive funding directly.

Green fund should aim to catalyze a flow of climate finance to invest in low-emission and climate-resilient development, driving a paradigm shift in the global response to climate change. The main source of funding can be the percentage of profit which subsoil users in Kazakhstan must donate for research and development purposes annually.

This financial structure may help stimulate private finance, unlocking the power of climate-friendly investment for low emission, climate resilient development.

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### **ACCESS TO ENERGY FOR ALL, OFF GRID SOLUTIONS FOR RURAL AREAS**

In September 2015, the world agreed on a set of universal Sustainable Development Goals. One of those goals – Goal #7 – calls for a secure affordable, reliable, sustainable and modern energy for all. To meet the Goal #7 – and the other Sustainable Development Goals – in the context of the ambition of the Paris Agreement, it is important to push energy transition that will drive the economic transformation.

The global energy transition requires a rapid increase in energy productivity, a new generation of institutions to manage our energy systems, an integrated approach to energy that embraces centralized and decentralized sources, and ever increasing share of renewables in the mix.

It is unconscionable that in 2016 there are more than 1 billion people who still have little or no access to electricity and over 3 billion people who do not have access to clean cooking. Approximately 85 percent of those without access live in just 20 high impact countries.

The share of the global population with access to clean fuels and technologies for cooking rose over 2012-14 from 56.5 to 57.4 percent. But due to population growth the absolute population lacking access to clean cooking grew from 3.03 billion to 3.04 billion over this period.

From 2012-14, Indonesia's access rate rose by more than 8 percent and Angola, Bhutan, the Maldives and Peru saw access rates grow by more than 4 percent. In contrast, access to clean fuels and technologies for cooking declined in Afghanistan and Nigeria by about 1 percent a year in the same period.

Access rates can be as low as 22 percent in rural areas compared to highs of 78 percent in urban areas.

Access to energy is an essential goal to lift billions of people out of poverty in support of SDG 7 and the Paris Agreement.

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### **VALUES AND PRINCIPLES FOR A NEW GDP STANDARD**

To support the creation of a more systemic idea of GDP economics, integrating social, cultural, ethical, environmental and psychological aspects

The main idea behind this point is based on the fact that the welfare of society is a multidimensional concept, its level should not be measured only by the steady growth rates of real GDP and material incomes of the population. It has been proved by empirical studies that even countries with the same level of average incomes can vary significantly in terms of "quality of life", e.g., the availability of jobs, access to education and health services, clean air and drinking water, level of social protection and the opportunities for participation of each person in the life of society. Thus, the parameter of "sustainability" alone for assessing the level of the country's

economy is not enough: it should take into account various aspects including economics, social, cultural, ethical, environmental and psychological.

One of the newest views on this approach is a concept of an inclusive economy, which is being actively discussed today by scientists in different countries as a possible approach for developing countries in the search for an effective model of sustainable development.

One of the pioneers in the development of the inclusive economy concept is the Rockefeller Foundation. In their report on Indicators of Inclusive Economy, the Fund describes the inclusive economy with five interrelated characteristics: growing, equitable, sustainable, participatory, and stable.

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### **SOLAR POWER TO HIGH PROFILE MUNICIPAL BUILDINGS IN KAZAKHSTAN**

The project can start by installing PV panels on high profile buildings, such as the Astana Airport, the Parliament and Convention Center, coupled with a commitment to place solar panels on the roofs of other social infrastructure buildings, such as schools, hospitals, and community centers. Such initiatives are already being implemented in some parts of the world, for instance, Sheikh Mohammed bin Rashid Al Maktoum, the vice president and prime minister of the United Arab Emirates and emir of Dubai, has announced a new clean energy strategy that aims to put solar panels on every rooftop in the city by 2030. If implemented, this plan will help provide 75 percent of Dubai's power through clean energy sources and make it the city with the smallest carbon footprint in the world by 2050.

Speaking of a specific project, one of the best examples would be SolarCity which recently merged with Tesla. The company

develops Building-Integrated Photovoltaics (BIPV). Simply put, BIPV replaces materials of the building envelope with photovoltaics. This is in contrast with traditional rooftop solar installations, which entail attaching a PV module to a building separately. The goal of BIPV is to integrate installation as part of a construction project, rather than a separate post-construction addition. This would result in savings by reducing labor and installation costs and eliminating the need for separate racking equipment. With BIPV, solar becomes an efficient building material rather than a luxury add-on.

With the technology already available, such an initiative, as a legacy of EXPO 2017, is all about public education and changing the paradigm in Kazakhstan. Being exposed to new technologies on a daily level will help get more support from the citizens of the country in other projects related to renewable and alternative energy.



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### THE GREEN TECHNOLOGY EXPERIENCE CENTER

**A spin-off from the best practice area on the expo site, affiliated to the Clean Energy Experience World (Former Kazakhstan Pavillon)**

The best practice area of the Expo 2017 presented a well curated selection of innovative projects from all around the world. An international group of experts called for papers, and this existing exhibition will go on and develop as a combined experience and

education center for green technologies. Especially the younger generation should get the opportunity to experience the quality and values of green and sustainable technologies, inventions, business models, which represent the necessary transition, but furthermore stand for a healthy, qualified, less polluted and environmentally friendly life.

The "Quality of Life Narrative" is the main message of this technology center!

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### THE ASTANA MASTER PLAN 2.0

#### **A Role Model for a Sustainable, Healthy, and Human Scale City - In Coordination with the Center of Urbanism, Astana**

The further development of the Kazakhstan capital could become a role model for a sustainable, human scale urbanisation process. Therefore, the recently founded Center for Urbanism is preparing the next competition for a masterplan 2.0 for the growing capital.

This masterplan could incorporate a number of measures and rules for developers and the real estate industry. It could use existing experiences from other cities (Barcelona, Copenhagen, Bogota, Masdar, etc.) and

develop strong relations to experts from various disciplines for a systemic and integrative planning process. It relates to energy efficiency standards of buildings, to sustainable public transport systems, to plans for the walkable city, as well as to community building projects, like urban gardening, urban farming, community centers, etc.

As an integral part of the masterplan, FEF suggests the development of a role model city area for mixed use after the "cradle to cradle" principles, as for example, very successfully realised in Holland by the Delta Group.

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### **TRANSPARENCY AND RELIABLE DATA FOR THE ENERGY MARKETS**

Creating political frameworks and legal systems is essential to a "just transition" process in general. This is unconditional in the same way for developed and for developing countries.

To create arguments for political decision processes, countries and the global community have to foster transparency in the market design. Therefore, reliable data has to be available.

To provide this data, independent institutions have to be available to collect and distribute them. Until now, the existing institutions were not powerful or courageous enough.

FEF suggests initiating a network of data-banks for technology, reliable data, and good and bad experiences in a decentralized and never before experienced transition process of energy ecosystems with a strong mandate by the UN.

*"To get away from protectionism and subsidizing of traditional energy sources"*  
(NN).

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### **NEW NARRATIVES FOR "JUST TRANSITION" FRAMEWORKS**

FEF would like to initiate an international network of "Narrators" for the development of new storylines for transition processes on local, regional and global levels.

The narrative should focus on the qualification of technological, social, cultural, ecological and political ecosystems. They have to provide a rich variety of "stories" (fairy tales) for the overall different and specific needs of local and national markets and populations. They should be easy and accessible, attractive and emotional. They enhance the design of the transition process and motivate people to participate.

They argue for decentralisation as a great chance for the enlargement of the people in this development process. They promote education and participation as indispensable conditions for transition.

They are not using scenarios of catastrophes and disasters but envision a positive and liveable future, which we all have to fight for.



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## **"THE BOOK OF THOUSAND PROFITABLE BUSINESS SOLUTIONS" (BERTRAND PICCARD)**

To foster the creation of an international network of change agents and pioneers to disseminate and scale profitable solutions, we suggest an "open source" book with best practice examples worldwide. Good examples and profitable solutions are key for the success of the energy-water-food-nexus and for meeting the Paris Agreement demands.

The Green Tech Institute in Astana could become a collector of these best practices. An international board of experts could select and curate these examples and promote dissemination.

A webpage conducts experiences and stories about the integration in very specific local markets. They would prove the variety and adaptability of technologies, business models and legal conditions. Since "there is no solution available, that fits it all", the initiative promotes variety and flexibility and the political will for experiments.

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## THE "JUST TRANSITION" PERSPECTIVE

"Just Transition" is a concept that captures the complexities of the transition to a low or zero-carbon economy, especially the consequences for communities and workers depending on the revenues from fossil fuels and other high carbon industries. The inclusion of such a "Just Transition" concept is particularly valuable in countries whose economies are largely commodity-based and where governments are really challenged to diversify their economies and find pathways that lead to a low carbon future.

The Paris Agreement mentions "Just Transition" and the International Labour Organisation has developed "Guidelines for a Just Transition

Towards Environmentally Sustainable Economies and Societies". There are also ongoing advocacy efforts in favour of "Just Transition" programming, for instance at the Green Climate Fund. Moreover, "Just Transition" is framing an increasing number of climate and energy debates around the world.

This concept could be further developed within the framework of the Green Tech Institute.

