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| *Sustainable development can be achieved by understanding the Earth System and its interaction with Humans.* |

**THE PROJECT OF CREATION OF THE FIRST SCIENTIFIC AND INNOVATION CENTER IN THE REPUBLIC OF TAJIKISTAN**

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**PROJECT SUMMARY**

Это в начале It is possible to achieve a sustainable future. Our knowledge of how the Earth System functions and how it affects us has grown to critical levels of understanding, and modern technology allows us to harness a range of renewable energy sources as well as develop innovative ways to turn waste into resources.

**POWER SCIENCE** is the science and technological center, which is engaged in the development of methods and techniques applicable in the field of geology, engineering geophysics and environment technology. We work hard to improve the quality of people's lives by solving problems associated with natural processes, minimizing the risks associated with them, as well as conducting geological exploration, engineering and survey work using innovative methods of work.

Goal. The main goal of Power Sciences is to improve our understanding of changes in the Earth's system in order to obtain accurate forecasts of the future climate and environment and justify sustainable development strategies. POWER SCIENCE is a global innovative research project Future Earth is also engaged in geological exploration, drafting and design of mining enterprises of various levels.

**POWER SCIENCE** is a non-profit research institute, offering applied scientific experience to study complex processes on the surface and inside the Earth that affect the environment, as well as conducting engineering surveys using new innovative equipment. Our research focuses on improving living conditions, managing natural resources, mitigating the effects of natural disasters and climate change, and increasing community resilience in these challenging environments

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|  | **The atmosphere in the context of global changes.** The focus on the atmosphere is to understand and predict trends. These include air quality, impact of feedback on the climate system and future weather or extreme events. With more than 50 years of experience in atmospheric research, our scientists are dedicated to preserving the Earth's natural systems. For example, we've developed ways to reduce pollution and better understand processes such as cloud formation. Our cutting-edge technology improves our understanding of the earth's climate system, so that you can take action to protect it. |

1. **Scope of work and vision of Sustainable Development POWER SCIENCE**

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|  | 1. **Forecasting and analysis of natural processes.** Earthquakes, volcanic eruptions, tsunamis or landslides endanger billions of people around the world. It becomes more and more important to develop the next generation of Earth observation systems and analyze the data obtained with these instruments in order to gain greater insight into the processes that influence our lives. In this way, we can anticipate dangers before they occur and warn those affected as far in advance as possible. |

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|  | 1. **The landscape of the future.** We need landscapes that can meet our growing needs for food, water and energy while preserving the diversity of the earth’s natural systems. Our research will show how multifunctional landscapes can exist in a balance of human influence and natural dynamics -- despite population growth and lack of resources. To this end, we are developing field experiments, observation networks of a new generation. |

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|  | 1. **Resources, Use, Engineering and AgroEcosystems.**  Bioeconomics is a cross-disciplinary area of research that studies how resources, use and engineering contribute to the sustainability and development of agroecosystems. We examine how to increase bio-productivity – for example through crop breeding, agricultural machinery as well as increasing the use of green energy sources or minimizing processing waste in biotechnological industries. |

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|  | 1. **Geo-resources for energy transition and high-tech society.**  Our focus is on creating new resources for the future, using technologies that make our lives easier and more sustainable in all aspects. The focus is on providing cleaner, smarter energy and raw materials that are available in a sustainable way to meet the needs of a growing population. |

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|  | 1. **Clean environment, less harm from industrial enterprises.**  We are developing new approaches to predictive risk assessment of chemicals and environmental quality assessment. To this end, we investigate how chemicals change and decompose in the environment or in the human body, which substances are particularly durable and how the simultaneous presence of a wide range of chemicals affects the threat to humanity and the environment. |

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|  | 1. **Geological exploration and engineering surveys.** Contacts for geological exploration, hydrological and consulting surveys. We provide all the necessary infrastructure for carrying out geological exploration, hydrological and consulting surveys in various levels. Our specialists will carry out the necessary laboratory work to enable you to have reliable information to support your project. |

**Infrastructure**

The research infrastructure of the scientific center includes a laboratory room, pools of instruments, and an office for using satellite observation systems for forecasting and conducting research. Our laboratory has a variety of advanced instruments that are used for physicomechanical and chemical analyses of rock, clay rocks, and chemical analyses of water. This equipment include: high-tech equipment such as precision balances (0.1 mg), moisture analyzer (Arias), radioactive proportional analyzer (Triton), ion chromatography system (Dionex) etc.

**Training Center.** The training course aims to expand the knowledge of trainees in the field of spatial and statistical methods, which have become an indispensable part of modern development in the various disciplines. In addition to theoretical presentations, practical classes will be conducted using specialized software such as: R Programming, Grapha, ArGiS, QGIS, SNAP, MODSNOW, GRACE, GeoPython, Petrel, General AutoCAD Aeolus (satellite), Swarm, Cryosat , PROBA-V SAOCOM ..