



MINISTRY OF ENERGY  
OF THE RUSSIAN FEDERATION



Asia-Pacific  
Economic Cooperation

*APEC Expert Group on Energy Efficiency and Conservation (EGEE&C)*  
Under the APEC Energy Working Group

# **Russian project: Creation of Atlas of remote areas and islands of APEC economies for sustainable energy development**

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# THE ISSUE

- The provision of remote areas with reliable and efficient low-carbon energy infrastructure is one of the key objectives of the national energy strategy
- **78 %** of the population of the Russian Federation is concentrated on **25 %** of national territory
- About **70 %** of the territory of the Russian Federation constitutes of the zone of decentralized electricity supply area
- There are **153 000** rural townships in the Russian Federation and **117 000** settlements with the population of **200** people and less



# KEY GOALS

- Reliable and high quality power supply of remote areas and regions with low density of consumers is one of the main guidelines of the state policy enshrined in the energy strategy of Russia until **2030**
- Total capacity of **5.9 GW** of Renewable Energy Sources (RES) and **2.5 %** of total generation by **2024**
- **The use of hybrid power systems in remote townships will significantly reduce the expenses of the budget of different levels and costs for the establishment and operation of energy infrastructure, increase power supply reliability, reduce the cost of electricity for consumers**



# THE INITIATIVE

- **This year Russia proposed initiative in the framework of APEC on: “Bridging Gap in Economic Development and integration of Remote Areas for sustainable growth in the APEC Region” (Ministry of economic development of the Russian Federation)**
- Under this initiative Russia is planning to propose a project of designing a database ranging and grading types of remote communities of Asia-Pacific economies to develop modular solutions for energy supply
- The project proposed is – the creation of **the Atlas** of remote areas of APEC economies with the determining of climatic and techno-economic potential and further classification for implementation of low-carbon energy solutions with the use of hybrid power systems and RES for sustainable energy supply of specified areas
- **The Atlas** could become one of the foremost instruments for designing integrated solutions adjusted to local geographical features for energy supply of remote areas of APEC economies



# RES SOLUTIONS FOR REMOTED AND LOW-POPULATED AREAS



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## HYBRID POWER SUPPLY SYSTEM

Universal autonomous power station:

- 1 Photovoltaic battery
  - 2 Diesel generator
  - 3 Management module
- Voltage converter
  - Storage
- 4 Windpower

COMBINATION OF SEVERAL KINDS OF RES  
DEPENDING ON GEOGRAPHICAL FEATURES



# OBJECTIVES

- Facilitation of energy supply of remote and low-populated areas of APEC economies
- Expansion of modern low-carbon technologies
- Reduction in expenditure of construction and maintenance of energy infrastructure
- Increase of social standard of living in remote areas



- **Why this issue is also important for APEC economies?**
- APEC economies have a diversified geographic structure including **remote areas** and **islands** are those that experience the most acute challenges to reliable and affordable access to energy
- Today, more than **400** million people in Asia-Pacific region do not have access to electricity
- Several important aspects of work which highlighted by **APEC Energy Working Group** are: enhancing the security of energy supply networks; promoting energy efficient and sustainable communities; supporting cleaner energy development etc.
- The widespread use of hybrid power systems and renewables directly corresponds with one of the main goal of APEC community to **double renewable energy** in the regional energy mix by 2030 and conduct **low-carbon** energy policy





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**THANK YOU FOR YOUR  
ATTENTION!**