

HYDROMETEOROLOGICAL CENTRE OF RUSSIA

SOCIAL-ECONOMIC BENEFITS OF
METEOROLOGICAL AND HYDROLOGICAL SERVICES

CASE STUDIES

ITEM	DESCRIPTION
Sector	Energy
Sub-sector	Hydropower
Case Study Name	Efficiency of forecasts of water inflow into the reservoirs
Case Study Description	Calculation of additional generation of the electric power by large hydroelectric power stations of Russia using long-term forecasts of water inflow into the reservoirs for a quarter
Location	Russia
Tools employed	Calculations of efficiency taking into account interrogations of users
Description of application	Experts of the Russian Federal Service for Hydrometeorology and Environmental Monitoring together with experts of hydroelectric power companies have estimated the volume of additional generation of electric power owing to the use of hydrological forecasts. Calculations have been made for two large hydroelectric power stations located in the basin of the Volga river (Rybinsk hydroelectric power station) and in the basin of the river Lena (Vilyuisk hydroelectric power station)
Cost/Benefits	The additional generation of electric power owing to use of hydrological forecasts has amounted to about 4 % of the annual generation of

	<p>electric power by the Rybinsk Hydroelectric power station and about 7 % of that of the Vilyuisk Hydroelectric power station.</p> <p>The total economic benefit of the application of hydrological forecasts allows to generate additional volume of electric power equalling the electric power generated by one hydroelectric power station with a capacity of 800-1000 MvT.</p>
Characteristics of the Case Study	The research was carried out during 11 years. Series of wet years have been included in the given research.
Consultation mechanism	The Hydrometeorological centre of Russia provides the users (hydroelectric power companies) with forecasts of water inflow into reservoirs. Hydroelectric power companies have passed to the Hydrometeorological centre of Russia the data on annual amounts of the generated electric power, the information on volumes of water in reservoirs, and also a planned operating mode of hydroelectric power stations.
Structural interface	Cooperation between providers and users is organized on the basis of bilateral agreements.
Delivery mechanism	The delivery mechanisms are the e-mail, the ftp-channels, (Fax, post – the additional channels).
Feedback mechanism	The feedback mechanism is the special Commission dealing with the problems of the reservoirs regulation, in which both the experts of Roshydromet and the representatives of the hydroelectric power

	companies participate.
Review Mechanism	The review mechanism between providers and users is the special Commission mentioned above.
Other	
Lessons learnt	This tool allows to develop the optimum operating mode of reservoirs taking into account the requirements of various users.
Best Practice Advice	The consultation mechanism and the feedback mechanism should be considered as the best practice.
Possible future advances	
Comments	
URL	
Other	