



Case study



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Water resource management

Amec Foster Wheeler has been working with the 2030 Water Resources Group (2030 WRG) since 2013 to undertake analyses to support the business case for sustainable water resource management in Tanzania, Peru, Mexico and Mongolia.

6 CLEAN WATER AND SANITATION



By 2030

- Achieve universal and equitable access to safe and affordable drinking water for all
- Substantially increase water use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address scarcity and substantially reduce the number of people suffering from water scarcity
- Implement integrated water resources management at all levels including through transboundary cooperation as appropriate
- Support and strengthen the participation of local communities in improving water and sanitation management

Water scarcity affects more than 40 per cent of the global population and is projected to rise, that means that there are billions of people over the world without access to clean water, a human right that many of us take for granted. Water scarcity and inadequate sanitation also comes with huge risk of disease, with nearly 1,000 children dying from preventable water and sanitation diseases every day.

In response to a number of the sustainable development goals related to clean water and sanitation, we have been working with the 2030 Water Resources Group (2030 WRG), to undertake analyses to support the business case for sustainable water resource management in Tanzania, Peru, Mexico and Mongolia.

Currently active in 11 countries, the 2030 WRG is a unique public-private-civil society collaboration which creates multi-stakeholder platforms to drive action on water resources reform in countries with developing economies with the aim to close the gap between water demand and supply by the year 2030.

Focus on Peru

Background

In order to improve resource availability and secure supplies for industry and the general population, the management of water in Peru needs to be redefined. Whilst at a country level, Peru has plenty of water, with annual renewable water resources of 2,000km³/year, at sub country level the position could not be more different. Over 98% of the run-off in Peru flows to the east of the Andes into the Amazon region with only 1.8% of run-off flowing into the arid Coastal region to the west where over 70% of the population, contributing 80% of the GDP are based. Rapid urbanisation and increased economic growth are placing stress on water resources and water quality is being severely compromised from untreated domestic discharge and unregulated mining operations.



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Amec Foster Wheeler undertook targeted hydro-economic analysis of the current situation to deliver compelling messages to Peruvian private sector companies, public sector and the public to raise awareness of the water challenges and mobilise new actors to engage in activities to improve water resources management in Peru to close the gap between projected water demand and a sustainable supply.

Outcome

The preliminary stage of the analysis identified and reviewed proposed water resource investments in seven catchments. A multi-criteria prioritisation framework was then developed which included criteria quantifying the financial effort needed to increase water availability for each project investment, the economic costs and benefits, and the associated social and environmental impacts. This framework and scoring of individual project investments was discussed in specifically designed and facilitated stakeholder consultation and engagement workshops.

Most of the projects ranking higher in the prioritisation of investments are programmes to increase water use efficiency in irrigation at different levels. Also noted are the prevalence of major water storage and inter-basin transfer projects, most of which are for irrigation only and others with multipurpose uses. The concern around surface and groundwater quality degradation explains the major effort foreseen in the country to expand or build wastewater treatment plants and sewer systems.

The outcome of this objective prioritisation provided key information on project investments for each sector in order for them to take an active role in projects that improve water resources management to help close the gap between projected water demand and supply for Peru.

For the Peru government, the output from this work will help to build the group of actors and country champions who will subsequently

take an active role in this area, including potential joint funding for partnership projects.

Of specific note is the multi criteria prioritisation framework that we developed has since been formally adopted by the National Water Authority and the Ministry of Agriculture. The government has adopted the methodology as a legal norm across the whole country, and the system will be used by private and public sector actors for the implementation of projects.

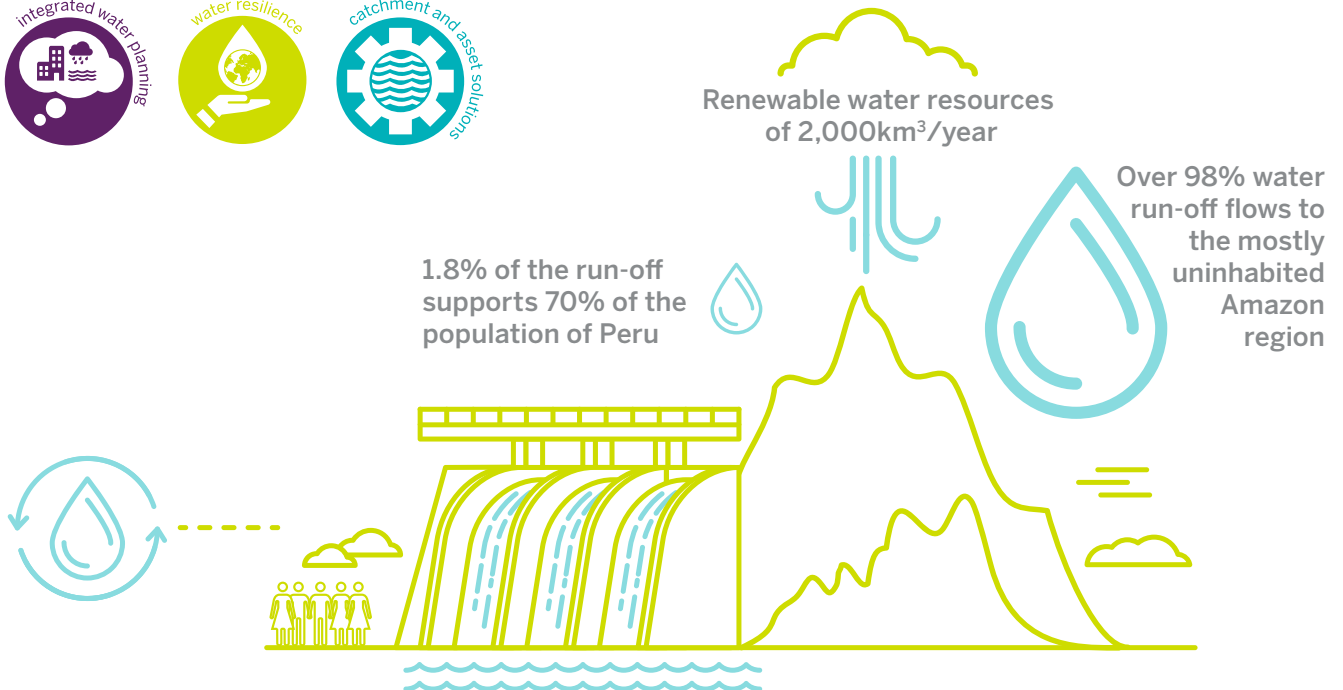
Building on this initial project the 2030 WRG Peruvian partnership remains very active, recent activities include: identifying innovative financial instruments to bring more resources to the sector and implement more projects; instrumental in leveraging \$400,000 of funding for an agricultural project to improve water use efficiency in asparagus production. Amec Foster Wheeler has been involved in a related follow on project in Peru to assist in the development of groundwater tariffs.



Renewable water resources of 2,000km³/year

1.8% of the run-off supports 70% of the population of Peru

Over 98% water run-off flows to the mostly uninhabited Amazon region





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Project sustainability framework



Human & Labour Rights	Environment	Anti-bribery & Corruption	Community
Diversity & Inclusion	Environmental Management	Code of Business Conduct and Ethics	Stakeholder Engagement
Human Rights	Carbon Management	Anti-bribery & Corruption	Local Content
Health & Safety	Efficiency and Innovation	Supply Chain	Community
Resiliency			