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Energy and water for MENA: From risks to opportunities

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Bonn, 5 May 2014. In June 2014, the Second Arab Forum on Renewable Energy and Energy Efficiency will discuss a pressing issue for the Middle East & North Africa (MENA): how can renewable energy sources and energy efficiency contribute to satisfying energy demand, reducing greenhouse gas emissions and promoting economic development? While a shift to renewable energy sources is fundamental, equally important is to address another critical resource: water. The linkages and competition between these two resources are increasing. Integrated approaches to address the energy and water nexus are therefore urgently needed to fully tackle regional vulnerabilities such as poverty, food and natural resource scarcity and to promote political stability.

For the next decades energy demand in the MENA region is expected to increase by an average of six to seven percent annually with a doubling of demand by 2020 in some countries mainly due to rapid population increase, economic growth and industrialization. Even if renewable energy sources will play an increasing role, a diversified energy mix will satisfy the growing demand. However, most energy extraction and production processes use water. This is the case for both conventional fossil fuel sources and some alternative energy technologies.

But the pressure on regional water systems is also increasing rapidly. Yet, the MENA region already faces a severe water crisis: withdrawal exceeds renewable water resources and demand will increase fivefold by 2050 – exceeding supply by 50 percent. Water shortage puts constraints not only on energy extraction and production, but also on food production which uses 85 percent of the water resources in the region.

Essentially, both the energy and the water crises risk the reinforcement of existing social inequalities, triggering further political instability. For instance, water scarcity affects small farmers, higher energy prices constrain small entrepreneurs, and both water and energy shortages degrade living conditions. Moreover, reliance on energy and food subsidies to legitimize existing regimes proliferates an inefficient use and distribution of energy and water.

Due to these fundamental links between energy, water, development and political stability, policymakers need to address these interdependent crises to enable growth without neglecting its distributive and environmental aspects. Countries such as Morocco and Tunisia are already diversifying their energy mix. But, attention to water-energy linkages and potential trade-offs remains limited. The development of renewable energy sources provides new opportunities in this sense and may help transform risks into opportunities – but only if the populations' claims for improved economic wellbeing and inclusiveness are addressed. The Arab League and other high level forums should therefore promote a nexus approach.

Measurement of the linkages between energy and water consumption needs to be improved and more effectively communicated. Improved data collection contributes to better understanding and quantifying trade-offs (e.g. water for energy vs. water for agriculture, water for dry cooling vs. cost of electricity).

To identify and address potential trade-offs governments need to reform planning and monitoring processes. Energy planning rarely considers water availability and quality, competing uses or impacts on the environment, as these sectors are traditionally regulated separately. Similarly, water allocation is often planned irrespective of future demand for power. Therefore, integrated planning is necessary to evaluate and address trade-offs, identify synergies and achieve sustainable development.

Planning and decision-making should be based on transparent and inclusive processes. The inclusion of all relevant stakeholders can allow for a thorough assessment of conflicts of interest and contribute to designing mitigation and compensation measures to minimise political instability. The role of the private sector in such integrated planning processes is critical for finding commercial opportunities that recognise the trade-offs and synergies between energy and water and for providing much needed funding sources. Further, supportive policies are needed for large-scale dissemination of these solutions.

Lastly, development cooperation actors need to play an increasing role in facilitating cross-sectoral engagement drawing on their extensive portfolio of technical and financial cooperation projects with local partners. These actors can also significantly contribute to knowledge and technology sharing as well as to fostering regional cooperation on transboundary resource management.

In effect, innovative and resilient development solutions are needed to transform risks of the energy and water crises into opportunities. Such solutions are to be found in nexus approaches that take into consideration the specific socio-economic and political context of each country.