

Creation of 3 solar farms In Jordan by the Orange Group



As part of its commitment to be Net Zero in 2040, the Orange Group has deployed three solar farms in Jordan, with the objective of supplying around 70% of the electricity needs of its subsidiary in Jordan. The deployment of similar projects in other countries in the Africa-Middle East region is being studied.

Starting date of the project	2016
Project Localisation Places of implementation of the project at this stage and targeted geography if replicable.	Jordan
Project objectives Type of climate innovation of the project with a description of the problem/issue addressed	Replace 65% of the electricity - relatively carbon-intensive coming from the Jordanian grid - consumed by the Orange subsidiary in Jordan, with the electricity produced by 3 solar farms.
Detailed project description	<p>Orange is present in 18 countries in Africa and the Middle East. With sales of €5.8 billion in 2020, Orange MEA is the Group's leading growth zone.</p> <p>The Orange Group is committed to being Net Zero Carbon by 2040. As part of its Engage 2025 strategic plan, the Group has taken intermediate targets to reduce its greenhouse gas emissions, scopes 1 and 2 by -30% in 2025 compared to 2015 and to reach at least 50% of renewable electricity at the Group level in 2025. The Group acts for example with the development of PPAs (Power Purchase Agreements) in Europe - with contracts already signed in Spain, France and Poland - and via the ESCO (Energy Services Companies) program or the deployment of solar farms in the Africa and Middle East regions.</p> <p>The Jordanian project presented here is emblematic of the Group's actions to develop the use of renewable energy in the MEA region.</p> <p>In addition, prior to this project, the price of electricity was rising sharply in Jordan (+5% per year), which resulted in an annual electricity bill growing significantly for Orange Jordan. In order to limit Jordan's dependence on external suppliers, the Jordanian government has enacted a law to allow self-generation of electricity.</p> <p>The project presented here took advantage of this opportunity to reduce the Group's greenhouse gas emissions in Jordan and reduce the annual energy costs of Orange Jordan. The project involved the construction and commissioning, in partnership with the Jordanian company Kavar Energy, of three farms with a combined capacity of approximately 36.5 MWp (MegaWatt peak). These 3 farms were commissioned during 2019 and, in 2020, provided more than 65% of Orange's energy needs in Jordan.</p> <p>These solar farms are located in Amman, al-Khalidiya, and in the Mafraq development area. They deliver electricity to the grid through the so-called wheeling process. The solar farms were built by the Jordanian company Kavar Energy, which also operates and maintains them.</p> <p>Orange has thus profoundly altered its sources of electricity supply in Jordan, through the use of new solar energy resources built on its initiative.</p> <p>Taking into account the CO₂ emission factor resulting from Jordan's energy mix, this implementation corresponds to approximately 26,000 tonnes of CO₂ avoided per year, or about 2% of the Group's annual emissions (scope 1&2).</p> <p>A study is underway for the deployment of equivalent projects in other countries in the area, subject to national regulations allowing it.</p> <p>In addition, in several of its subsidiaries in the MEA region, Orange deploys innovative solar solutions and latest generation batteries at its technical sites, with partners specialized in energy. In total, Orange has</p>

	equipped 5,400 telecom sites with solar panels in the MEA region (some 100% solar, others hybrid) saving 55 million litres of fuel each year.																													
Main project's drivers for reducing the greenhouse gas emissions	<table border="1"> <thead> <tr> <th>Reduction levers</th><th colspan="2">Details on the aspects of the project</th></tr> </thead> <tbody> <tr> <td><input type="checkbox"/> Energy and resource efficiency (including behaviour)</td><td colspan="2"></td></tr> <tr> <td><input type="checkbox"/> Energy Decarbonisation</td><td colspan="2">Switch to solar energy</td></tr> <tr> <td><input checked="" type="checkbox"/> Energy efficiency improvements</td><td colspan="2"></td></tr> <tr> <td><input checked="" type="checkbox"/> Improving efficiency in non-energy resources</td><td colspan="2"></td></tr> <tr> <td><input type="checkbox"/> Emissions absorption: creation of carbon sinks, negative emissions (BECCS, CCU/S, ...)</td><td colspan="2"></td></tr> <tr> <td><input type="checkbox"/> Financing low-carbon producers or disinvestment from carbon assets</td><td colspan="2"></td></tr> <tr> <td><input type="checkbox"/> Reduction of other greenhouse gases emission</td><td colspan="2"></td></tr> </tbody> </table>			Reduction levers	Details on the aspects of the project		<input type="checkbox"/> Energy and resource efficiency (including behaviour)			<input type="checkbox"/> Energy Decarbonisation	Switch to solar energy		<input checked="" type="checkbox"/> Energy efficiency improvements			<input checked="" type="checkbox"/> Improving efficiency in non-energy resources			<input type="checkbox"/> Emissions absorption: creation of carbon sinks, negative emissions (BECCS, CCU/S, ...)			<input type="checkbox"/> Financing low-carbon producers or disinvestment from carbon assets			<input type="checkbox"/> Reduction of other greenhouse gases emission					
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Clarification on the calculation or other remarks : In 2019 Orange Jordan consumed 52 GWh having as origin the production of its 3 solar farms. The emission factor of the Jordanian grid was in 2019 of 497g CO ₂ éq /KWh. According to the GHG Protocol, market based assessment, the emission factor used for the electricity coming from solar energy is 0 gCO ₂ éq / KWh. Then the reduced Scope 2 emissions assessed for 2019 are : 52 GWh * 497 * 1000000 / 1000000 = 25 844 tonnes CO ₂ éq																														
Modality of verification of the quantification.	Calculation standard used (ADEME base, GHG protocol, etc.): GHG Protocol Verification of the calculation (internal or external) : Internal and external in the frame of the publication of the Universal Registration Document;																													
Other environmental and social benefits of the project	This solar farm project will: <ul style="list-style-type: none"> - Address climate change through contribution to national targets (NDCs) identified in the Paris Agreement - Promote economic development and reduce the need for fossil fuel imports - Create local employment opportunities, especially for young people The Sustainable Development Goals concerned are the SDG 13 Climate change, SDG 7 Clean and Affordable Energy, SDG 8 Decent Work and Economic Growth and SDG 9 Industry, Innovation and Infrastructure																													

Project maturity level	<input type="checkbox"/> Prototype laboratory test (TRL 7) <input type="checkbox"/> Real life testing (TRL 7-8) <input type="checkbox"/> Pre-commercial prototype (TRL 9) <input type="checkbox"/> Small-scale implementation <input checked="" type="checkbox"/> Medium to large scale implementation Remarques : Cliquez ici ou appuyez ici pour préciser le niveau de maturité du projet
Capacity and conditions of the project reproducibility, with associated climate impact mitigation potential	Reproducibility possible in MEA zone (Africa and Middle East). Potential Impact: Reduction of Scope 2 emissions. Examples: <ul style="list-style-type: none"> - in Morocco, it would be possible to reduce by about 100,000 tCO2 eq.per year - in Egypt, this would represent about 110,000 tCO2 eq.per year
Amount of investment made (in €)	Confidential
Economic profitability of the project (ROI)	<input checked="" type="checkbox"/> ST (0-3years) <input type="checkbox"/> MT (4-10years) <input type="checkbox"/> LT (> 10 years) Remarks : Cliquez ou appuyez ici pour entrer du texte.
Engaged partnerships	Partnerships have been established with the Jordan Kingdom Ministry of Energy and Mineral resources, ant Kawar Energy.
Open comments from the project owner	/
For more information	
Contact the company carrying the project	philippe.tuzzolino@orange.com
Project URL links	https://www.orange.io/sites/press/en/release/pages/mega-solar-farm-project.aspx
Illustrations of the project	