



**Aga Khan Health Services**

## **Afghanistan: Installation of solar refrigerators in health facilities across five provinces**

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In order to support the Expanded Program on Immunization (EPI) in remote areas of Afghanistan, where electricity is either not available, or inconsistent; the Aga Khan Health Services, Afghanistan (AKHS,A), recently installed solar refrigerators.

Previously, these facilities used Liquid Petroleum Gas (LPG) – based refrigerators to store vaccines. This approach was expensive and LPG supplies were variable. Since 2022, AKHS,A began installing solar direct-drive (SDD) refrigerators. This innovation resolved challenges associated with off-grid vaccine refrigeration, allowing national immunisation programs to extend services to even more remote and underserved areas.

Furthermore, these fridges are more environmentally friendly as they use R600a (Isobutane) as a refrigerant, which has a relatively low global warming potential. Each refrigerator is served by two solar panels which provide the necessary power and real-time remote-control technology to allow for monitoring vaccine storage conditions.

A total of 309 solar refrigerators have been installed in 309 EPI centres operated by AKHS,A across five provinces: Badakhshan, Bamyan, Takhar, Baghlan, and Kabul. This initiative is expected to save approximately USD 54,031 annually from avoiding the need to purchase LPG and prevent the emission of around 131 tons of CO<sub>2</sub>e.

Carbon emissions were calculated using AKDN's carbon management tool.



*Solar refrigerators installed at AKHS,A EPI centres*