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DNV helps Hanwha Energy deliver reliable and sustainable power in Malaysia

Supplying DNV's full suite of technical advisory and owner's engineer services for a 30 MWac solar plant





DNV has delivered owner's engineering services to Hanwha Energy and its partners, from initial project feasibility, through construction, and ultimately to final acceptance of a 30 MWac

solar PV plant in Kangar, Perlis state, Malaysia.

The project achieved commercial operation in November 2020 and is helping advance the adoption of solar energy in the country. The Perlis plant was one of the projects selected for Phase 2 of Malaysia's Large Scale Solar (LSS) program which aims to not only diversify Malaysia's power generation mix and increase the country's renewable resources from 2% to 20% by 2025 but also offer a pathway to make clean energy more



produced by the Perlis plant also supports
Malaysia's environmental mandates to improve air quality and reduce greenhouse gas (GHG) emissions which have doubled in the country between 1997 to 2017.
Solar projects such as this contribute to the country's mission of reducing GHG production by up to 40%

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(f) Global



from 2005 levels, as committed to in COP21.

Three key benefits

- Ensured design compliance to international standards and best practices for improved Project Internal Rate of Return (IRR)
- Cost optimization
- Local support in
 Malaysia when COVID 19 limited international travel

About the customer

Hanwha Energy is a comprehensive energy solutions provider that operates power plants in Korea and around the world. Its diverse portfolio includes co-generation plants, solar power plants, as well as hydrogen fuel cell power.

The customer challenge

Hanwha Energy had to overcome a number of challenges in this project: From optimizing its plant's PV module capacity, given the land constraints, to designing flood mitigation measures in consideration of the project's proximity to the Chuping River and managing transport and supply chain disruptions caused by COVID-19 and Malaysia's Movement Control Order (MCO).

DNV's solution

DNV used its full suite of owner's engineer services which included site evaluation, conceptual design and energy assessments, tender support and bid evaluation, EPC/O&M contract reviews, project scheduling, construction design reviews, construction management, site audits, and commissioning reviews.

Benefits to the customer

The full-service owner's engineer services DNV provided Hanwha Energy and its partners ensured the solar project's compliance to international standards and best practices. The EPC reviews facilitated cost optimization and improved the project's IRR and bankability. This

instilled confidence in the project with potential lenders, which enabled the customer to secure project financing from a leading regional bank. With DNV's guidance, the project was well-designed, wellexecuted and successfully achieved commercial operation in November 2020. The solar plant has been operating reliably since then, safeguarding its profitability for the foreseeable future.

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