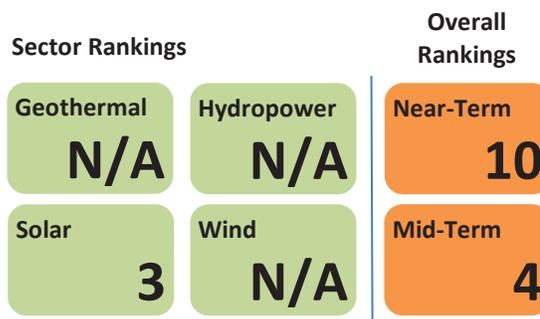


# Saudi Arabia

Type: Small Market; Large Market Share

While almost no U.S. exports have occurred to date, Saudi Arabia appears on the verge of becoming a key export destination for many U.S. suppliers. The market, however, has been “the next big market” for some time. Nevertheless, in 2015 and beyond, ITA expects Saudi Arabia to take the first steps to achieving its clean energy goals, but notes that its rankings are based on assumed policy implementation which may inflate our projections.



Saudi Arabia will be principally a solar export market, although some development is possible in other sectors. Despite almost no development thus far, the country offers one of the world’s most appealing resources bases, particularly for solar development and plans to install a staggering 54 GW of new renewable power by 2032.<sup>62</sup>

Because almost no global solar manufacturers operate in Saudi Arabia today, growth in the sector would need to be supported almost exclusively by imports, particularly in the short-term. In turn, this should create an important opportunity for several U.S. suppliers. As a result, Saudi Arabia ranks 10<sup>th</sup> on ITA list of top renewable energy export markets in the near-term – and fourth in the medium-term. It ranks third in terms of solar exports, which will account for nearly all exports over both the short and medium-term.

Proven crude oil and natural gas reserves, as well as generous subsidies, have driven energy demand growth over the last several decades (fossil fuel extraction is highly energy intensive). Today, nearly all of Saudi Arabia’s electricity is produced by fossil fuels, leaving enormous wind and solar potential undeveloped.

According to some estimates, the Saudi Arabia now spends 70 percent of its national budget on energy subsidies, motivating a clear desire to diversify the country’s energy supply.<sup>63</sup> Moreover, the Saudi Government has sought to reduce its dependence on fossil fuels – not out of a need to address climate change, but so it can export more fossil fuels.

In 2012, the King Abdullah City for Atomic and Renewable Energy (KACARE) released Saudi Arabia’s National Energy Plan, which noted that the Kingdom would meet its 54 GW goal by developing 16 GW of solar PV, 25 GW of solar thermal, and 9 GW of new wind power.<sup>64</sup> An initial tender for 800 MW of new renewable power was to be introduced a month after the energy plans release followed by two more tenders totaling 6.9 GW in 2015.<sup>65</sup> To date, the program is well behind schedule and no tenders have been released, causing great frustration for many would-be suppliers.

Nevertheless, given recent positive announcements from the Saudi Government and industry assessments of the opportunity, ITA expects the Kingdom to install 1.8 GW of new renewable energy by 2016 and nearly 10 GW by 2020. However, ITA notes considerable downside risk to these projections. With no track record of success, it remains to be seen if KACARE or another Saudi entity can foster the investment needed to meet the Kingdom’s goals.

The projections are also hindered by the changing price of oil on global markets. As the region’s largest producer and supplier of fossil fuels, low international prices will have an important and potentially debilitating impact on Saudi Arabia’s national budget. As such, investments in new renewable energy - which are not needed, but rather wanted, by the Kingdom’s leadership – may be delayed. As no policy change has occurred to date, ITA maintains its projections, but notes that any amendment or delay in upcoming solar tenders will dramatically reduce projections for the market.

## Overview of the Renewable Energy Market

U.S. exporters should begin to see progress in the Saudi renewable energy market this year. In September 2014, the Saudi Government announced its intention to build solar power plants in five different regions by the end of 2015. The sites were identified as Dawaser (Riyadh), Mahd Al-Dahab (Madinah), and Sharourah (Najran).<sup>66</sup> Completion of the five projects on time will help gauge whether the market is ready to achieve its significant policy goals.

The abundant and substantial electricity subsidies employed by the Saudi Government have made large scale renewable energy development uncompetitive. In fact, renewable energy will likely continue to be highly government-driven in Saudi Arabia long after it reaches grid parity in other markets.

## Challenges and Barriers to Renewable Energy Exports

A further concern is the presence of potentially severe local content requirements. In its White Paper on the subject, KACARE noted that forthcoming tenders for solar projects would include an evaluation of each developer's support for local companies permanently based in Saudi Arabia. According to the plan, developers will be required to submit each project's localization impact two years after operations begin. Any developer that does not meet the minimum requirement for local content will be ineligible for future tenders. Within each technology class, developers falling in the bottom 20 percent of job localization will be penalized a certain amount per non-Saudi employee.<sup>67</sup> These stipulations, if implemented, are significantly troubling for potential U.S. export competitiveness in the market.

## Opportunities for U.S. Companies

As a wealthy economy with considerable renewable energy resource potential, any future development will enjoy relatively easy access to financial support. The International Finance Committee (IFC), the World Bank's private-sector arm, for example, recently announced it would invest \$100 million in a local Saudi developer, seeking to support their efforts at building clean energy projects in the country.<sup>68</sup>

### Solar

Saudi Arabia ranks third on ITA's list of top solar export markets to 2016, and moves up to second over the medium-term.

Given the subsidized nature of Saudi retail electricity prices, little incentive exists for households or business to invest in roof-mounted solar PV systems. As a result, ITA expects most – if not all – solar development in Saudi Arabia to be in the form of utility-scale projects.

Without local content requirements keeping U.S.-made equipment out of the market, ITA believes U.S. companies would be well positioned to find export deals. Unlike other markets where U.S. exporters often lose to lower-cost/lower-quality alternatives from other suppliers, the Saudis have demonstrated a clear interest in cutting-edge, innovative technologies in which the United States excels.

Moreover, Saudi Arabia offers a potentially transformative concentrated solar power (CSP) market. If achieved, or even approached, the 25 GW of new solar thermal power called for in the 2012 National Energy Plan, would turn the market into a catalyst for this relatively new technology. CSP is ideal for Saudi Arabia's climate and population. It requires consistent sunlight and large areas of open spaces -- two things Saudi Arabia clearly offers.

### Hydropower

ITA does not anticipate hydropower development in Saudi Arabia in either the short-or-medium-term.

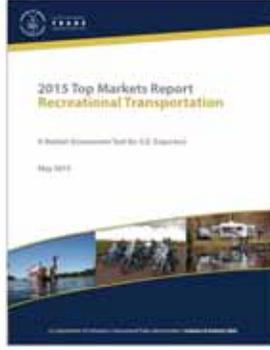
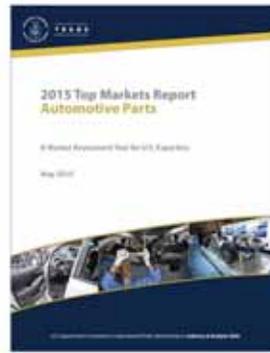
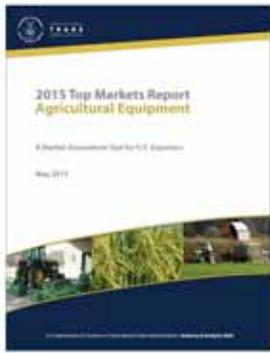
### Geothermal

The original announcement from KACARE that described Saudi's clean energy development goals noted 1 GW of new geothermal development, although no progress has been made on this commitment to date. ITA does not anticipate any development in either the short or medium-term. Some exports are possible in the early exploration phase of geothermal development, particularly site assessment and early-stage engineering.

### Wind

Little or no development is expected in Saudi Arabia's wind sector despite the original commitment from KACARE to tender 100 MW of wind in 2013. All indications are that future development will be focused on the solar sector.

However, Saudi Arabia does enjoy good wind speeds in the Southeast, making some potential development possible. It is unlikely that any development in this region would be supplied by U.S.-made equipment.



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