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### SRK Consulting Powers Johannesburg Office with Solar

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With sustainable engineering solutions at its heart, global engineers and scientists SRK Consulting is 'walking the talk' with a program to power its Johannesburg offices in Illovo with solar panels.

Since the installation of photovoltaic cells on the roof of its Illovo premises began in 2016, SRK's Johannesburg practice has been augmenting the power it draws from City Power, according to managing director Vis Reddy.

"Our concern with operating in an environmentally sustainable manner – especially electricity and water conservation – goes back many years," said Reddy, "leading us to install a borehole about more than a decade ago, to plant our gardens with hardy indigenous plants and to install LED lighting; the solar panels have been an exciting next step."

Working with suppliers, the first phase of improving electricity consumption was the installation of timers on lights, geysers, hot water boilers and air conditioners, said SRK financial director Paul Schmidt.

"The next stage involved the solar panels, where we projected savings of 174 MWh in the first year," said Schmidt. "Over about 18 months, we installed 442 solar panels on our north-facing, west-facing and east-facing roof surfaces – which are angled at 25 degrees to the horizontal."

He highlighted the positive return on investment of the installation, which has a five to six-year payback period and a lifespan of about 25 years – at which stage the panels are still 80% effective.

An important aspect of any solar investment like this is the ability to monitor solar energy production in real time and to analyse it historically to measure its actual performance, said Franciska Lake, SRK associate partner and principal environmental scientist.

"We have seen significant reductions in the daily quantities of electricity that we buy from the main grid," said Lake. "The monitoring software measures key aspects of the system such as the output of the panels, and input from the grid; to date the panels have saved us on average 18% of our usual consumption, with savings in sunny months like this past August reaching almost 30%."

Reddy stated that interest in the solar panels among staff is high, due to the increasingly central place of environmental issues in any form of engineering project. The experience of installing, managing and monitoring the system has also given added impetus to the company's ability to inform and advise clients on renewable energy issues.

"Many of the projects we work on have the capacity to include renewable energy options in their design, especially those which are not constrained in terms of land space availability," she said. "Mines and industries have already begun to embrace renewable options for power generation, especially given the rising cost of grid electricity and their past experience of unreliable supply."

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Lake noted that while many new construction developments incorporated solar energy generation solutions, it was more complex to 'retrofit' an existing building that had not been designed with renewable power in mind. In this respect, SRK's solar project was an encouraging case study showing that it could be done cost-effectively and without undue disruption.

While the capacity of the solar panels and batteries does not make the building self-sufficient, when coupled with the generator and battery back-up system, they are able to power the servers, computers and lighting in the building; this allows work to continue uninterrupted in the case of a power failure, even in the case of extended power outages.