FACT SHEET

DEPARTMENT OF ENVIRONMENTAL AFFAIRS GREEN BUILDING, ENVIRONMENT HOUSE

GREEN ELEMENTS: DEA GREEN BUILDING PPP PROJECT

The Green Building is designed to maximise and demonstrate energy efficiency and to meet green specifications with respect to:

- Lighting (e.g. the maximisation of natural light sources, compact fluorescent lights, individual switching, movement sensors, etc.);
- Reduction of water consumption as compared to the conventional buildings of similar size.
- Efficient Staff Movement (e.g. reduced reliance on lifts, coherent accommodation of interrelated sections, etc.); and
- Indoor/Internal Climate control (e.g. increased passive climate control and reduced reliance on mechanical air conditioning or centralized air conditioning system with customised control for each office/area)
- Demonstrates urban greening (e.g. indoor planting, roof gardens, etc.);
- Uses and demonstrates environment friendly building materials, finishes, furniture and equipment (i.e. no poisonous paints or adhesives, no energy inefficient appliances, no exotic hardwoods, no toxic laminates, etc.);
- Uses and demonstrates efficient resource use – (e.g. reduction of paper use etc.)
- Demonstrates ergonomic and ‘worker-friendly’ work spaces.
- Solar generated power for the facility. The roof of the building is almost entirely covered with solar photovoltaic panels, which exceeded a 10% target, and will supply almost 20% of the building’s energy needs.
- The Building is strategically located to cater for commuting mass transport, promote fuel efficient transport & cycling facilities.
- The northern parking area hosts a large concentrated photovoltaic panel (CPV), which tracks the sun during the day, and supplies power to the electric vehicle (EV) charging station for the DEA’s EV pilot project.

The Green Building will perform the following green targets:

- Overall energy consumption in the building will be to a maximum of 115kWh/m²/annum
- 10% of the overall energy consumption will be from a renewable energy source
- Municipal water consumption will be 30% lower than that of a conventionally designed identical building (e.g. use of rain water harvested for gardening and bathrooms)
- The use of selected local South African materials and products

Going Green

The building has received a 6 Green Star SA rating from the Green Building Council of South Africa (GBCSA). It is the first government building in South Africa to achieve a 6 Green Star SA rating. It is also the first 6 Green Star rated building in the City of Tshwane.

Some of the areas that the building was awarded the 6 Green Star rating for includes: efficient energy consumption, use of environmentally friendly materials, unique and precedent setting energy consumption mechanism which has not been implemented elsewhere in the construction sector in the Republic of South Africa, environmentally
friendly transportation modes, efficient and state of the art water saving devices, on-site grey-water treatment works, emissions reduction systems and solar energy innovation systems.

The building achieved the highest score (82 points) ever awarded by the GBCSA, in both the public and private sectors, for a large office space of this magnitude, to date, in the Republic of South Africa.

The Green Star SA ‘design’ rating objectively assesses how ‘green’ the building plan is, with all the green initiatives included. It considers categories including management; indoor environmental quality (IEQ); energy; transport; water; materials; land use and ecology; emissions; and innovation.

DEA head office submitted documentation towards receiving an ‘As-built’ Green Star SA rating, to the Green Building Council, which ensures that the original intentions in the design phase were adhered to.

**Fast Facts:**

- **Project size:** 30 654m² (Green Star SA certified area)
- **Capital Project cost:** R653-million
- **Project start:** July 2012
- **Project completion:** May 2014
- **Green Star SA Certification:** 6 Star (82 points), May 2013
- **Building Owner:** Department of Environmental Affairs
- **Project developer:** Invvelo Concession Company (Private sector participant - comprising Old Mutual, Kagiso Tiso Group, Wiphold and Aveng Grinaker-LTA
- **Design & Construction:** Aveng Grinaker-LTA & Keren Kula JV
- **Architect:** Boogertman & Partners
- **Quantity Surveyor:** Pentad and PDNA Consulting Engineers
- **Facilities Manager:** Invvelo Facilities Management (An Old Mutual Property & Dijalo Property Group JV)
- **Green Star SA Accredited Professional:** PD Naidoo & Associates