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# Wheel energy for Park



■ The water wheel in the Green Point Park.

Turbine will produce electricity while water from mountain spring will be used to water Common

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**T**he Green Point Common has gone back to its roots with the installation of the historical hydro-electric power generation system, which has been operating since last week.

The turbine and the water wheel will produce electricity that will be used to power lights in the park, while the water from the main spring, Stadsfontein in Oranjezicht, which was the original source of water that led to the establishment of Cape Town in 1652, will be used to irrigate the common.

After months of talking and planning, the modernised system, which includes a water wheel that is 3.5 metres in diameter, was ready for passers-by to see – another feather in the Green Point Park's cap.

Lesley De Reuck, director for the Cape Town Stadium and Green Point Park, said the water wheel and turbine was now a "symbolic recreation" of the history of water in Cape Town.

"As the water fills the buckets on the water wheel, the extra weight turns the wheel and drive shaft to grind grain into flour, or, as seen with the water wheel at Green Point Common, to generate electricity.

With 20 litres a second, about 0.2kW is generated.

This is stored in a battery for lighting up the area at night," said Mr De Reuck.

He explained that the water turbine pumps water from the spring, using 20 litres a second, through the pipeline to the common.

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## City will save R35 000 a year using spring water for Common

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"This spins the generator at high speed to provide some 3kW electrical power. At Green Point Common, this water then goes to the water wheel at low pressure, and then runs through the ponds," he said.

An estimated 580 000kl of water is used to irrigate Green Point Common, the beachfront and golf course each year, mostly during summer. But with water coming from springs in Oranjezicht, Capetonians' potable water will not be affected by the irrigation.

"The value of this water, using the City of Cape Town rate of R3.20/kl applicable to water reuse, is therefore estimated to be in the order of R1.85 million," said Mr De Reuck.

The hydro-electric power generation system was inspired by the need for South Africans to make use of renewable energy.

"Using the Renewable Energy Feed In Tariff (REFIT) value of power for hydro-electricity of R0.94 (and escalating every year), the power generated will have a value of about R35 000 a year with the volume



■ Dr Saville Furman of Milnerton captured this image of the Cape Town Stadium, taken in the Urban Park on July Monday July 11.

of water that is expected to pass through the turbine and water wheel over a full year," said Mr De Reuck.

“*History has come full circle*”

The vision of the system by Reclaim Camissa Trust members Caron von Zeil and Dave Crombie, a consulting engineer at GIBB, was funded by the City of Cape Town and the Danish Embassy, which sponsored the water wheel and turbine.

The organisation was started to promote the reclamation of Cape Town's water and to ensure the public's access to water.

The springs situated on the lower slopes of Table Mountain were discovered centuries ago by mariners.

"The amount of water that still flows has not changed. There is sufficient water, not only to be used at Green Point Common, but also in the City Bowl as an

asset for its citizens," he said.

Jane Meyer of the Mouille Point Ratepayers' Association said they welcomed the newest addition to the park.

"It's a fantastic idea to use water from the mountain for the common because it is wasted anyway," said Ms Meyer.

Mr De Reuck said the park, which was the city's "newest and most impressive asset", saw the meeting of the past and the future

use of renewable energy: "Green Point Common was originally a vlei and public open space, and now history has come full circle, and again has water to soothe the urban soul," said Mr De Reuck.

