



Press Release

Ripasso Energy sets new solar-to-electricity world record!

Malmö, Sweden November 19, 2012

Ripasso Energy, a solar technology provider based in Sweden, has commissioned the first units of their Concentrated Solar Power (CSP) plant with parabolic dish and Stirling Power Converter (SPC) in Upington, South Africa. During the initial operation a new solar-to-grid-quality-electricity efficiency world record of 32 % has been achieved for a 30 kW converter. This was reached at an ambient temperature of above 28 degree C which verifies the unique properties of the Ripasso Energy Stirling Dish technology especially for arid and hot climate in the “sun belt” when approximately one third of the solar energy directly is converted to three-phase electricity through a heat engine driving a rotating generator. *“This is a breakthrough for cost efficient and robust CSP technology and an important step towards a clean energy sustainable future”*, says Gunnar Larsson, Managing Director for Ripasso Energy.

On November 12, 2012 The International Energy Agency (IEA) released World Energy Outlook 2012 concluding that the world is still failing to put the global energy system onto a more sustainable path. The need for electricity in emerging economies drives a 70% increase in worldwide energy demand and 1.3 billion people still lack electricity. The report mentions some of the symptoms that fossil fuel subsidies are increasing at the same time as CO₂ emissions are at record high while the renewable industry is under strain. The IEA report finally concluded that water needs for energy production are set to grow at twice the rate of energy demand.

Solar Energy as PV panels and CSP has the potential to provide electricity for many regions of the world and there are many ongoing projects. The Ripasso Energy Stirling Dish technology has now demonstrated the unique solar to electricity efficiency at high temperatures and without the need of large quantities of water and with low demand of material and land. This gives the Ripasso Energy solution a lower Levelized Cost Of Energy (LCOE) and a lower environmental impact compared with competing technologies. The Ripasso concept is especially suited for dry areas with high solar radiation such as in large regions of Africa, Middle East, Asia and parts of Americas.

The design of the Stirling Engine is based on a license from Kockums and since many years used in submarines for the Swedish Navy but also with a previous solar-to-electricity efficiency record from an installation in United States. Ripasso has further developed and commercialized the Dish-Stirling concept to a cost efficient and modularized system with automatic sun tracking modules operating independently and generating 2x30 kW three phase AC power each. These modules are not depending on large centralized turbines but can individually generate electricity from the start and then gradually be combined to larger CSP power plants from hundreds of kW for local and industrial use to hundreds of MW utility scale plants for grid connections.

Gunnar Larsson, the director of Ripasso Energy and earlier with Kockums summarizes; *“The interdisciplinary cross breeding of Stirling Engine submarine technology for an arid desert has given us a feasible and robust solution for clean energy, in the parts of the world which really needs it now.”*



RIPASSO ENERGY®

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Ripasso Energy (www.ripassoenergy.com) was founded in 2008 with Ahlström Capital (www.ahlstromcapital.com) as main owner. Based on the very good experience of the Stirling Engine from submarines and also from CSP demonstration sites in USA, Ripasso acquired the license from Kockums and entered other strategic partnerships in order to further develop the Dish-Stirling concept. Since 2011 the Ripasso CSP design has been tested in the factory in Sweden and in Antalya, Turkey. The first commercial power plant is now being built for the South African company, GHG Reductions in Upington, RSA where the solar radiation gives DNI levels which are among the highest in the world (2800 to 3000 kWh/m² and year). And generating a new world record!

Ripasso Energy is located in Malmö, Sweden, near Kockums and close to a highly experienced supply chain originating from the automotive and telecom industry. This ensures efficient and high quality production for the key components. Ripasso Energy is now actively looking for local partners and suppliers around the world in order to further customize CSP solutions to meet each market demand.

Ripasso Energy participates in the CSP Today South Africa 2013 2nd Concentrated Solar Thermal Power Conference & Expo 4-5 February in Pretoria where it is possible to get more information about this state-of-the-art CSP solution. For more information please contact Managing Director Gunnar Larsson, gunnar.larsson@ripassoenergy.com or Marketing & Sales Director Carl Öhlén, carl.ohlen@ripassoenergy.com who both are participating in the conference.



Ripasso Energy Stirling Dish modules under installation in Upington, RSA (2 x 30 kW per module)



Ripasso Energy Stirling Dish modules during commissioning, evaluating different mirror area



Ripasso Energy Stirling Dish modules in operation at Upington, demonstrating the new world record



Ripasso Energy South African team celebrates the new world record in Upington, RSA