Photon Energy Invests in RayGen Resources

- *Photon Energy has taken a minority equity stake in RayGen Resources.*
- *The companies have also entered a strategic partnership with the objective of developing global renewable energy projects suitable for the roll-out of RayGen's unique technology.*
- *Photon Energy will act as a project develper, EPC contractor and project equity investor.*
- *RayGen's cutting-edge solution integrates its proprietary PV Ultra solar technology and a tailored electro-thermal storage cycle (Thermal Hydro), delivering high-performance low-cost energy storage.*

Amsterdam – 7 April 2020 – Photon Energy N.V. (WSE: PEN, the 'Group') announced today that it has entered a strategic partnership with the Australian technology company RayGen Resources Pty Ltd. ('RayGen') in order to develop global renewable energy projects suitable for the roll-out of RayGen's unique solar power and electricity storage technology.

Photon Energy will act as a project developer and EPC contractor and – where suitable – as an equity investor in the projects, which will be supplied by RayGen. The partnership includes the development of a 100 MWp/1000 MWh solar-plus-storage project. As part of this strategic partnership, Photon Energy has also made a minority equity investment in RayGen.

Photon Energy's CEO Georg Hotar said: "Our investment in RayGen is our first step into the upstream segment of the solar industry and it comes at a crucial time. The elimination of solar energy's intermittency and ensuring its 24-hour availability at grid-competitive cost is the holy grail and RayGen has found it. Our partnership with RayGen will enable us to address a vast new universe of opportunities both on-grid as well as in off-grid remote locations including islands. We are thrilled to be working with RayGen's team on pushing the boundaries of the solar energy industry in the coming years."

"With this investment and partnership with RayGen we are tackling head-on the problem of intermittency of solar energy. The RayGen PV Ultra module is the most efficient way to convert solar energy into electricity to date. Combining high efficiency concentrated PV generation with thermal absorption and storage, it achieves the highest energy density of any solar technology available today. The RayGen technology is a massive step forward providing cost effective base load, inertia and on-demand power as an integral part of our future energy supply. Photon Energy is very excited to be working with the RayGen team on both optimizing EPC outcomes and on developing utility-scale projects globally," added Michael Gartner, Managing Director of Photon Energy Australia.

RayGen has developed a world-leading, low-cost solar-plus-storage solution by combining its proprietary PV Ultra solar technology – which co-generates electricity and heat – with a tailored electro-thermal storage cycle, called Thermal Hydro, that uses existing industrial equipment to deliver high-performance low-cost electricity storage.

PV Ultra generates electricity and heat from sunlight focused onto a tower-mounted photovoltaic receiver. The PV Ultra receiver contains around 400 PV Ultra modules, each generating 2.5 kW of electricity and 5 kW of heat. The total is 1 MW of electricity and 2 MW of heat for a combined 3 MW of power per PV Ultra field. PV Ultra is a modular system – it can be scaled up and scaled down in 1 MW units to suit a variety of projects and customers.

Thermal Hydro is a low-cost, large-scale, long-duration energy storage system developed by RayGen. Taking advantage of PV Ultra's unique capacity to cogenerate electricity and heat, Thermal Hydro efficiently stores thermal energy in two insulated water reservoirs with a 90□C temperature difference. RayGen has adapted a thermal storage technology widely used in northern European district heating systems for this unique electricity storage application. When required, firm power is dispatched through a thermally driven Organic Rankine Cycle (ORC) engine, a proven generation technology utilised in geothermal generation systems.

"RayGen is thrilled to be working with Photon Energy to accelerate the deployment of our technology. RayGen is delighted to have found a strategic partner in Photon Energy who shares our mission to accelerate the clean energy transition. Moving toward 100 per cent renewable energy will require storage solutions that can store power cost-effectively for hours, days or weeks and be deployed at large scale around the world. With the calibre of Photon Energy's team and their breadth of experience with developing and operating solar projects worldwide, RayGen's technology can soon be operating across a range of countries and sectors, helping to make the shift to renewable baseload power a reality," said Richard Payne, CEO of RayGen.

For its flagship solar-plus-storage project, RayGen is proposing to build a fully dispatchable renewable energy facility that will deliver 4 MW of solar generation and 3 MW/50 MWh (17 hours) of storage at a project site Carwarp in north-west Victoria. RayGen recently concluded an agreement for AUD 3 million in funding from the Australian Renewable Energy Agency (ARENA) to conduct a technical and commercial feasibility study for this project. The solar power plant will provide Australia's National Electricity Market with day-night renewable electricity. The project will also supply synchronous power where it is critically needed in the West Murray region.

ABOUT PHOTON ENERGY

Photon Energy N.V. is a global solar energy solutions and services company covering the entire lifecycle of solar energy systems. Since its foundation in 2008, Photon Energy has built and commissioned over 80 MWp of solar power plants across two continents and 57.1 MWp as part of our own portfolio. Current project development includes a project pipeline of 738 MWp in Australia (ouf of which 580 MWp in partnership with Canadian Solar) and 17.7 MWp in Hungary, with a target of 75 MWp by 2021. The O&M division provides operations and maintenance services for over 300 MWp worldwide. Additionally, the subsidiary Photon Water Technology (PWT) focuses on developing and providing water purification, remediation and treatment systems for worldwide deployment. Photon Energy is headquartered in Amsterdam and has offices in Europe and Australia. For more information, please visit www.photonenergy.com.

ABOUT RAYGEN RESOURCES

RayGen Resources Pty Ltd. is an Australian technology company with world-leading capability in the next generation of solar power and electricity storage. RayGen's "Solar Power Plant" consists of RayGen's proprietary PV Ultra (solar co-generation) and Thermal Hydro (electro-thermal storage) technologies. These technologies are designed in Melbourne and are protected by six patent families. RayGen has an experienced team of 30 staff in Melbourne and Bendigo, working across engineering, manufacturing, operations and commercial functions. In 2015, its first PV Ultra project started supplying power to farms near Bendigo in Victoria and has now been operating with high performance for five years. RayGen has built and sold $1MW_{AC}$ ($3MW_{co\text{-}generation}$) PV Ultra projects supported by power purchase agreements. RayGen develops and manufactures its high-efficiency solar modules at its $25MW_{AC}$ manufacturing facility in Melbourne. For more information, please visit www.raygen.com.

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