

## ESPI report

Company: Photon Energy N.V.  
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Title: Photon Water launches in-situ remediation technology to clean PFAS contamination in the environment

Detailed data:

The management board of Photon Energy N.V. (the 'Group') informs that Photon Water, a subsidiary of Photon Energy Group, has made substantial advances in its research & development efforts on its patent-pending nano-remediation technology, which has already been deployed across multiple contaminated sites internationally, including encouraging results in breaking down per and polyfluorinated substances (PFAS).

PFAS are globally emerging pollutants with uncertain health and environmental impacts. PFAS compounds have been produced commercially since the 1950s and are thermally stable and highly soluble. They exist in multiple forms and are often present in combination with other contaminants. To date more than 4,700 PFAS compounds have been identified. They have been used in non-stick cookware, products treating clothing and furniture, adhesives and in fire suppressant chemicals due to their water, oil and heat resistance properties. PFAS substances are highly stable in the environment and are very mobile in ground water and soils to contaminate rivers, lakes and drinking water sources.

PFAS contamination can be found in surface and ground water associated with the chemical industry, textile manufacturing, oil refining, civil and military sites (particularly airports), landfills and other industrial locations. High PFAS concentrations are also found around firefighting training grounds and sites where major fires have been extinguished using fire-fighting foams containing PFAS. The widespread contamination of drinking water also poses a serious problem for water utilities serving their communities. Increasingly, the PFAS contamination has become a matter of significant public concern and scrutiny in North America and Australia, where regulators are reviewing PFAS discharge and contamination levels in drinking water and food. The European Union is starting to address this problem and since 1 July 2020 Denmark has become the first EU member state to ban the use of PFAS substances in food contact paper and board materials and articles.

'We have been successfully applying our in-situ nano-remediation technology to sites affected by various and complex pollutants worldwide. Our technology's potential multiplied when extensive laboratory tests indicated that we can break down per-and polyfluorinated substances (PFAS). We are now deploying our first pilot project to prove the applicability of our technology to ridding groundwater in-situ from PFAS-contamination,' explains Petr Kvapil, Director of Photon Water.

'As PFAS is recognized as a serious environmental pollutant in Australia, we have been testing the applicability of our nano-remediation technology to this pollutant type. We are working with multiple stakeholders to deploy our nano-remediation technology to provide effective in-situ remediation capable of breaking down PFAS without the need to remove or pump and treat soil and groundwater. Together with Photon Energy's capabilities in off-grid power we are able to deploy the technology in any location,' commented Michael Gartner, Managing Director, Photon Energy Group Australia.

'Photon Water's primary focus is to develop a partnering approach with regulators, industry and government to support efficient and cost-effective removal of PFAS from the environment. Our experience with industrial water treatment, hazardous liquid waste management and project development will assist the successful integration of these technologies into Photon Water's package

of innovative water treatment offerings. The removal of PFAS through in-situ treatment is globally unique, with broad potential for application across multiple markets and industries,' commented Ian Phillipps, General Manager of Photon Water Australia.

'Cleaning up PFAS sites is among the most pressing topics in the remediation industry globally and we are confident that our in-situ nano-remediation technology – once successfully piloted - can be deployed rapidly in the global marketplace. We are truly excited about our new strategic focus, which has the potential to quickly grow into a major pillar of our company while addressing an environmental risk to the world's population,' concluded Georg Hotar, Chief Executive Officer of Photon Energy N.V.

Photon Energy's management board has decided to concentrate and ringfence all intellectual property rights related to the Group's nano-remediation technology in the fully owned subsidiary Photon Remediation Technology N.V., based in Amsterdam, Netherlands. Future remediation projects will be executed by Photon Remediation Technology's fully owned subsidiaries Photon Remediation Technology Europe s.r.o. based in Prague, Czech Republic and Photon Remediation Technology Australia Pty. Ltd. based in Sydney, Australia.

**Legal basis:** Art 17. ust 1 MAR – informacje poufne.

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