

# Cleantech in Luxembourg

Luxembourg hosts a thriving cleantech sector comprised of a growing number of companies that work mainly in the fields of eco-construction, renewable energy, waste management, water and electro mobility, and which are supported by numerous public agencies and research organisations.

The take-up of green technologies is empowered by an ambitious Government action plan, which has recently been adopted in order to stimulate the production of eco-technology products, the management of natural resources and changes in the design and development of production and consumption systems, in order to make them cleaner and more resource efficient (eco-construction, eco-design, environmental regulations of processes, recycling materials, etc.). Another priority is to support research and development in the environmental technologies field, thereby leading to greater sustainability and economic diversification.

## This action plan is oriented around the development of two different fields of capability:

- the rational use of natural materials
- innovative materials

Research activities in environmental technologies focus on environmental management, life-cycle assessment, clean technologies and process engineering, environmental modelling as well as the sustainable management of aquatic and terrestrial ecosystems.

#### **LUXINNOVATION CAN HELP YOU:**

- To find answers to your R&D related questions via knowledge and good practice sharing with companies and public research organisations
- To build public-private partnerships in order to develop new projects of common interest
- To access practical and technical information related to specific questions on cleantech
- Obtain advice on national and European funding opportunities for cleantech technologies
- With value-added information on emerging technologies and markets

Luxinnovation also manages Luxembourg's Eco-Innovation Cluster whose main objective is to enhance the fields of energy, environment and sustainable development in Luxembourg. The cluster focuses on the following four topics: Circular Economy, Mobility, Sustainable Cities and Smart Technologies.



The cleantech sector in Luxembourg (and globally) holds massive potential for development. Innovation in cleantech is driven by the efforts of governments, companies and individuals to improve energy and water security, increase competitiveness, create employment and reduce waste and emissions. Currently. Luxembourg hosts around 200 cleantech companies, working in renewable energy, waste management, water and ecoconstruction. Under the Luxembourg Government's Clean Technology Action Plan, a private initiative backed by the Ministry of the Economy, a dedicated zone is being built where cleantech companies can establish operations and access services and infrastructure that permit them to grow.

#### Our partners

#### **APATEQ**

2, rue Kalchesbruck 1852 Luxembourg

#### APATEQ.COM

### ENOVOS LUXEMBOURG (ENCEVO)

2 Domaine du Schlassgoard 4149 Esch-sur-Alzette

#### **ENOVOS.LU**

#### **LIST**

5 Avenue des Hauts-Fourneaux 4362 Esch-sur-Alzette

#### LIST.LU





Geographically, Luxembourg is the green heartland of Europe and a strategic smart business location with a national character of openness, dynamism, reliability. International studies on the competitiveness of countries consistently rank Luxembourg among the first.





#### Georges Schaaf, Head of Sector Cleantech, Luxinnovation

Georges Schaaf joined Luxinnovation as Head of Sector Cleantech in October 2016. Georges holds a Master of Arts in International Business from De Montfort University, Leicester, UK, and a Diplom-Wirtschaftsingenieur from Technische Universität Kaiserslautern, Germany.

Mr. Schaaf has held senior positions in leading Luxembourg companies such as Head of Marketing & Sales for SkyCom Sàrl, and General Manager for Domaines Vinsmoselle SC. He is a confirmed business consultant with over 20 years of experience overseeing operations, projects and business service.

In his current role, George's main goal is to promote and develop two of the key sectors of the national economy - cleantech and manufacturing technologies.

As a European capital, Luxembourg is increasingly an attractive and dynamic country for international cleantech R&D and innovation. Public budgets dedicated to research have increased 12 times from 2000 to 2014. With its population of 575,000 (nearly 50% foreign nationals), Luxembourg can offer deserving start-ups high-level business opportunities quickly. Furthermore, owing to the country's strategic location, 60% of European GDP is only an hour's flight away from Luxembourg.

An open, dynamic and reliable business centre that offers unparalleled access to all major European markets just as a starting point? A multilingual country with business-oriented public services, a deep pool of well-educated professional resources, a world class and secure ICT ecosystem, and an ambitious government that wants your business to succeed?

ALL THESE FACTORS MAKE
LUXEMBOURG THE PERFECT
CENTRAL HUB TO GROW YOUR
CLEANTECH BUSINESS.



thus reducing operational costs and sus-

taining the environment.





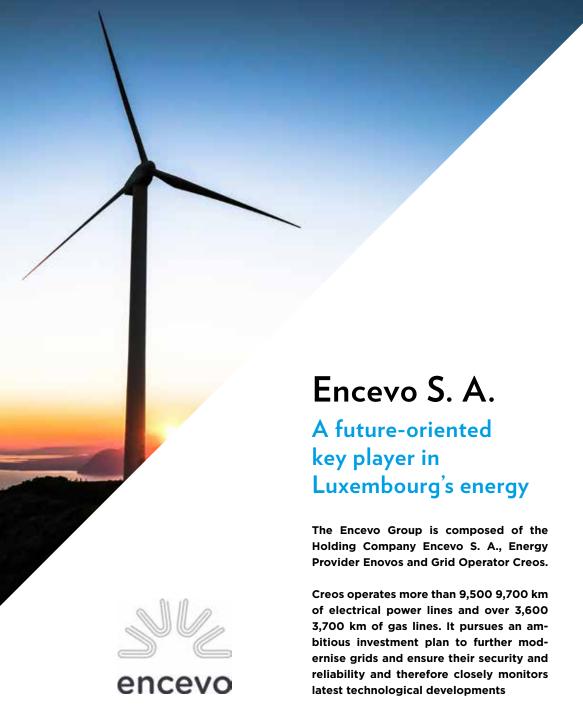
Selected markets for APATEQ's one-stop solutions are the oil and gas industry (produced water treatment), water consuming industries (process water recycling), the shipping industry (scrub water treatment), the waste management sector, i.e. landfill operations (leachate treatment) as well as the municipal wastewater treatment.

The APATEQ team relies on experienced industry veterans with decades of knowhow and hands-on experience. Technical partnerships with pioneers in their respective businesses additionally strengthen the company's position as a dedicated innovation leader. APATEQ is, among others, winner of the Frost & Sullivan Best Practices Award, the Red Herring Global 100 Award and has been selected Technology Pioneer by the World Economic Forum.

#### Dirk Martin, Chief Sales Officer, APATEQ

Dirk Martin commands more than 20 years of professional international sales, procurement and logistics experience throughout Europe, North America, South America, Asia and Africa. Mr. Martin holds a Business Administration Degree. During his dynamic career developing start-up companies, he has honed his experience in various industrial sectors.

Dirk specialises in the commercialisation of new technologies and the creation of new strategic business alliances. He has sold wastewater treatment plants to customers in Canada, France, Germany, Denmark and Luxembourg.





Outside of Luxembourg, Enovos has a strong presence in the German market as well as in the French and Belgian markets through several subsidiaries and participations.

The Group currently employs a workforce of over 1,500 staff members and has over 300,000 delivery points (electricity and natural gas). It is a future-oriented key player in Luxembourg's energy transition and strives to play an active role in innovative business models and solutions that arise from the fast reshaping of the energy sector.

Through Enovos, the Group is actively engaged in the development of new services and products in the domains of eco-mobility, energy efficiency, smart applications and distributed energy solutions and also is in a position to partner with start-ups and perform venture capital investments.

#### Nicolas Milerioux, Investment Manager, Enovos Luxembourg (Encevo)

Nicolas is a venture capital investor with a focus on energy industry topics such as digitalisation, decentralisation and decarbonisation. These include amongst others smart cities, smart buildings as well as smart grid.

Prior to joining the Encevo Group to deploy the corporate venturing activities, Nicolas had gained 10 years' experience in cross border M&A (Mergers & Acquisitions) operations (small to large caps) combined with 5 years' experience in Venture Capital.

Nicolas began his career in different roles within the automotive industry. He holds a Master Degree obtained from ESCEM Group (FR) and Gothenburg School of Business (SW).





The Luxembourg Institute for Science and Technology (LIST) is a mission-driven Research and Technology Organisation (RTO) active in the fields of materials, environment and IT. By transferring technology to society as well as local companies, LIST contributes strongly to the building of tomorrow's Luxembourg.



#### Vincent Berthé, Senior Research & Technology Associate, LIST

Dr. Vincent Berthé holds a PhD in polymer engineering from Mines PariTech. After a few years in the industry in polymer and process development he recently joined LIST (The Luxembourg Institute for Science and Technology) as polymer processing specialist.

His main topic of interest is polymer reactive extrusion and additive manufacturing. Among his fields of interests are industrial bio based co-products processing for extraction of new monomers.

#### Christian Penny, Senior Research & Technology Associate in Microbiology, LIST

Dr. Christian Penny holds a PhD in Microbiology and a Doctorate of Philosophy (PhD) Field of Study Microbiology, General both from Université de Strasbourg.

Dr. Penny is a founding board members of the LSfM (the Luxembourg Society for Microbiology) which was created in 2016 in order to consolidate the activities in the field of microbiology on the national level in Luxembourg.

A major engine of the diversification and growth of Luxembourg's economy through innovation, LIST supports the deployment of solutions to a wide range of sectors, including renewable resources and biotechnologies.

LIST develops innovative and competitive solutions in response to the key needs of Luxembourgish and European companies by establishing a link between research and society as a whole. LIST'S approach is to ensure that technology transfers take place between these two spheres.

#### **MISSION**

LIST's mission is to strengthen and diversify the economy through industrial innovation in Luxembourg, and to deliver projects benefitting society and quality of life in general. LIST has three research departments which represent the backbone of its activity as an RTO:

- The Environmental Research and Innovation (ERIN) department.
- The IT for Innovative Services (ITIS) department,
- The Materials Research and Technology (MRT) department.

The Environmental Research & Innovation (ERIN) department develops strategies technologies and tools to better monitor, assess, use and safeguard natural and renewable resources.

