

# A variety of recycling and waste management solutions



Bertrand Lempkowicz

**PES:** Welcome back to PES Solar/PV magazine, it's great to talk with you again. For the benefit of our new readers would you like to begin by explaining a little about the background of PV CYCLE and the importance of the solar/PV industry to you?

**Bertrand Lempkowicz:** PV CYCLE was built on a voluntary basis, during the very first years of the photovoltaic industry. At the very beginning, manufacturers were proud to be able to offer alternative renewable energy to fossil and nuclear energy and with good reason, but as for all types of energy, the end of life of the equipment must be taken into consideration.

PV CYCLE was founded with PV modules in mind, by and for the photovoltaic industry, which will now a few years later, can propose solutions for efficient recycling built on the experience gained from the first returns of broken, defective

Bertrand Lempkowicz, PR, Marketing & Communication Manager, at PV CYCLE, popped in to PES to discuss the importance of recycling and managing waste produced by so called 'green energy'. Our industry should definitely make this an even higher priority.

or end-of-life panels.

On the other hand, when Europe introduced the photovoltaic panels into the WEEE directive, obliging producers to comply with the obligations of recovery and recycling used equipment, we were already in a position to help deal with this and there was a rapid deployment of PV CYCLE throughout Europe.

A photovoltaic installation will take between 2 and 4 years to amortise a carbon foot print depending on the sun and will continue to produce electricity for 20 or 30 years.

By the way, if you take a look to the rising curve of the photovoltaic market, the industry is not only ecologically interesting but also financially.

**PES:** Could you tell us which type of companies need customised solutions and why?

**BL:** Any company could need a customised solution, be it a multinational wishing a shared service throughout many countries, the small installer anxious to offer a quality service, but who doesn't have solutions nearby, governments or communities who want to set up a collection system, PV CYCLE can intervene whatever the need and the customer can safely rely on our experience.

**PES:** We are hearing more and more about the dismantling of products, we would like to know more about the

**options for the end of life modules?**

**BL:** Since the beginning and until 2016 PV CYCLE offered different types of solutions, depending on the type of panel and need. Indeed, each photovoltaic panel technology has its own peculiarities, composition and/or method of assembly, therefore a single recycling solution is not possible.

The silicon-based panels, the simplest to treat today, are recycled mechanically: a succession of grindings and screenings make it possible to separate the fractions and to reinject them in to their different channels. Contrary to popular belief, these panels do not contain toxic materials and are easily recyclable.

CdTe type panels for example, require chemical treatment in order to separate the different layers.

Energy recovery, using panels as a fuel to produce energy, is also an available solution, although easier to implement, this solution is not favoured by PV CYCLE.

Recently, the refurbishment appears in our catalogue of options, indeed often, photovoltaic panels are replaced because they produce less or sometimes encounter moisture problems or micro-crack, today some of these defects are generally easy to fix.

A refurbishment will therefore extend the life of a panel and will negate the need for dismantling. This is the reason why PV CYCLE works with different companies,

each specialised in their respective field

**PES:** How important is training to PV CYCLE?

**BL:** I prefer to talk about education rather than training, of course safety is very important, that's why procedures exist for handling and transporting waste, we go further than procedures, with a much wider role than simple recycling. We try to educate people about the need, the issues. PV CYCLE is also involved in various R & D projects (Cradle-to-Cradle, Eco-Design ...) because research is also part of education.

**PES:** Where do you operate and where are your key markets and are there any areas, geographically speaking, that you would like to work in?

**BL:** Initially based in Brussels, 2 steps away from the European institutions, PV CYCLE has been operating all over Europe since 2007, the experience gained in this sector and the need for recycling outside Europe, led us to look for solutions in the 4 corners of the world, via our different offices based in Belgium, Italy, France, Germany, Netherlands, USA, etc.

In 2017, we created Global Membership, an option that allows access to all PV CYCLE services anywhere in the world where the need is. We know that the next challenges will be the USA and Asia, where end-of-life panel stocks are accumulating.

**PES:** Please could you explain to us what the PV CYCLE Global or One Country Membership is?

**BL:** Global and One Country Membership are both an overall guarantee for final customer that the member company has a sustainable and responsible solution for all used PV panels, thanks to access to our professional network of collection, transport and treatment. During the valid



contractual membership period, PV CYCLE executes high-quality end-of-life management of PV panels at a discounted, recycling rate and advantageous purchase price through our Recycling and Refurbishment Program.

Our Global Membership is ideal for international PV players or companies with projects in multiple countries\*. However, when your company is operationally active in only one country\*, simply go for our One Country Membership.

**PES:** What do you mean when you say PV CYCLE is moving out of its conform zone and why?

**BL:** We have a strong network of partners

and a huge background in Europe, we know exactly how to work with the legislation in place, and actually the legislation helps us a lot. There is no choice for a company who wants to sell PV in Europe, they have to be compliant with the legislation. PV CYCLE offers first class waste management and recycling services to the waste holder, but starting and developing these services means finding new partners, working with new legislation, different for each country but also working hard to help people understand the benefit of recycling, even if there is no regulation in place.

**PES:** What is your outlook on the future for the solar/PV industry including ecologically?

**BL:** I think the vast majority of the world's population is beginning to understand the ecological issues we will face in the future, at least I hope so. Every day videos and photos come to us summing up the consequences of the mistakes of the past, I think we all remember the recent video of turtles smothered by plastic bags, rivers polluted by chemicals dumped by unscrupulous factories, dying populations.

We are now sufficiently informed about the consequences our actions may have. Can we, even should we, talk about green energy, if we don't take in to consideration the waste produced?

The photovoltaic industry is booming and it's a good thing, nuclear will not disappear, but it will not be enough to meet the electricity needs for the entire planet. Give greater importance to truly renewable energy, it will benefit everyone.

[www.pvcycle.org](http://www.pvcycle.org)

