

TIME FOR TRANSITION

JUNE
2023

HIGHLIGHTS - INSIGHTS - SHARING ON THE ECOLOGICAL TRANSITION

SCALING UP INNOVATIVE SOLUTIONS: A MUST!



EDITORIAL

LIONEL LE MAUX

PRESIDENT OF THE TRANSITION FORUM ASSOCIATION
PRESIDENT OF AQUA ASSET MANAGEMENT



INTERVIEW

PASCAL CANFIN

MEMBER OF THE EUROPEAN PARLIAMENT AND CHAIRMAN OF THE
ENVIRONMENT, PUBLIC HEALTH AND FOOD SAFETY COMMITTEE (ENVI)



THE TERRITORIAL MEETINGS

THE ASSOCIATION LAUNCHES A NEW EVENT FORMAT
DISCOVER THE HIGHLIGHTS OF THE FIRST EDITION IN LILLE



HERE & NOW

OUR MEMBERS ARE ACTIVELY DEPLOYING SOLUTIONS, FINANCING
PROJECTS AND ROLLING-OUT OPERATING METHODS TO BUILD A MORE
SUSTAINABLE AND LOW-CARBON WORLD



WHAT'S NEXT?

THE TRANSITION INSTITUTE 1.5

A POSITIVE FIRST RESULT FOR TTI.5



3 QUESTIONS TO

TWO KEY PLAYERS IN THE FIELD OF BATTERIES FOR ELECTRIC VEHICLES:
ACC AND VERKOR



LAUNCHING OF THE 2023 CALL FOR EXPRESSION OF INTEREST

INNOVATING FOR THE ECOLOGICAL TRANSITION OF TERRITORIES



SOLUTIONS

THE WINNERS OF THE 2022 CEI... ONE YEAR LATER



INITIATIVES

THE TASK, THE FIRST INTERNATIONAL CERTIFICATE OF KNOWLEDGE IN
SUSTAINABLE DEVELOPMENT



ASSOCIATION

FIND OUT MORE ABOUT THE TRANSITION FORUM ASSOCIATION



INVESTORS HAVE A MAJOR ROLE TO PLAY IN DEVELOPING TRANSFORMATIVE PROJECTS, AND THEY NEED TO REDISCOVER THEIR INDUSTRIAL BASE IF THEY REALLY WANT TO SUPPORT THE ECOLOGICAL TRANSITION.



Filature du nord ; scène de triage de la laine

Ferdinand Joseph Gueldry

Date: 1913

Medium: Oil on canvas 122 x 114 cm

Roubaix, La Piscine, musée d'Art et d'Industrie André Diligent

TRANSITION-FORUM.ORG

TIME FOR TRANSITION

HIGHLIGHTS - INSIGHTS - SHARING ON THE ECOLOGICAL TRANSITION

JUNE
2023



THE TRANSITION FORUM ASSOCIATION BRINGS TOGETHER AN INTERNATIONAL COMMUNITY OF PRIVATE AND PUBLIC DECISION MAKERS WHO ACT TOGETHER TO DEPLOY AMBITIOUS ECOLOGICAL TRANSITION PROJECTS.

SUMMARY

EDITORIAL	5
INTERVIEW	6-7
THE TERRITORIAL MEETINGS	8-9
HERE & NOW	10-11
WHAT'S NEXT?	12-13
3 QUESTIONS TO	14-16
LAUNCHING OF THE 2023 CALL FOR EXPRESSION OF INTEREST	17
SOLUTIONS	18-19
INITIATIVES	20-21
ASSOCIATION	22



TRANSITION FORUM

COMMITTED TO AN ECOLOGICAL TRANSITION

TIME FOR SOLUTIONS

6TH EDITION – Paris, 14 and 15 November 2023

Orangerie d'Auteuil, 2 Bd d'Auteuil, 75016 Paris

Discover TRANSITION FORUMS's new Territorial Meetings taking place this year in Lyon (Sept. 15th) and Nantes (Oct. 12th)

event.transition-forum.org

>> JOIN THE ASSOCIATION

Join an international community of players committed to accelerating the ecological transition.

www.transition-forum.org



Join us

EDITORIAL

It's time to build up investments in order to scale up

Investors, entrepreneurs, citizens, scientists, politicians... everyone agrees on the urgent need to accelerate the deployment of more sustainable energy solutions. However, there is still too great a gap between intentions and the capacity for large-scale deployment.

De-industrialisation in France has led to a loss of skills and financial interest in certain key sectors needed today to support our transition to a greener society. The facts are clear: while all the players are convinced of the need to move towards greener solutions, new technological achievements must first and foremost be replicable.

Today, the proliferation of pilot projects that do not make scaling up a prerequisite is not encouraging an industrialised vision of their development.

Hydrogen, for example, is a particularly good example of the need to develop large-scale projects more quickly. Users are strongly encouraged to turn to new energies, but to adapt to them, they need comprehensive solutions for widespread use.

The proliferation throughout the country of pilot projects and other "proof of concept" (poc) for vehicles or charging stations is not part of an industrial ecosystem vision that will enable massive, replicable deployment of infrastructure-usage packages.

Accelerating the ecological transition will only be possible if there is massive investment in the industry, involving all the players, both public and private, but also by capitalising more on the strengths of our regions and territories to support our deployment ambitions.



It is therefore imperative to focus all available resources on those aspects that provide a "fundamental service" to our societies, rather than succumbing to the "poc trick" and wasting our energies on pilot projects that will not enable us to develop lasting solutions on a large scale.

These past years, to meet environmental challenges, the financial sector has strongly focused on technology to the detriment of industry. Let's not lose sight of the fact that industry is first and foremost patient capital committed to a long-term vision, but also and above all a question of economies of scale. In the Tesla example, the models are based on a combination of innovation and technological feat, but this feat needs to combine speed and replicability to achieve a systemic effect.

Investors have a major role to play in developing transformative projects, and they need to rediscover their industrial base if they really want to support the ecological transition.

LIONEL LE MAUX

President of Transition Forum Association and
President of Aqua Asset Management



INTERVIEW



Pascal Canfin, Member of the European Parliament and Chairman of the Environment, Public Health and Food Safety Committee (ENVI), looks back on the progress of the Green Industry Plans in Europe and in France.

What do you think of the Green Deal for Climate Neutrality's Industrial Plan as a whole?

First of all, let me remind you that the Green deal is a package of fifty laws designed to enable Europe to become carbon neutral by 2050, in line with the objectives of the Paris Agreement. This means inventing a new carbon-free economy in just one generation.

Therefore, the Green Deal is both a climate and environmental policy as well as an industrial policy, since it implies in-depth changes to value chains and the decarbonisation of the industry.

For instance, in a sector like mobility, we have voted for numerous structuring texts, such as the move to zero emission cars by 2035. This objective, which is the same as California's, proves that we are part of a global revolution. And if we do not want to be left behind in this revolution, we need to invest massively today.

Still on the subject of cars, we have already adopted a number of texts (vehicles, batteries, charging stations...) but we are now working our way up the whole chain and are also tackling the challenges of metal supply.

We are working to facilitate access to these critical materials, to develop innovative solutions enabling to do without them and to build a much more circular economy, and therefore one that will save resources for this industry.

Finally, the Green Deal has a third geopolitical pillar since this policy is also linked to our strategic autonomy: it should enable us to be stronger and less dependent, starting with the Russian fossil fuels!

Is it in line with your goal of making an ecological power of Europe, which was one of your priorities four years ago?

Yes, we are in the process of building a European ecological power, step by step, in both industrial and trade policy. We're incorporating environmental and climate issues in our trade rules.

For example, we have implemented the carbon tax at our borders and we have adopted a text that puts an end to imported deforestation. These two texts are global firsts.

One of the key elements of the Industrial plan is the Net Zero Emissions Industry (NZEI) regulation.

About half of the fifty texts making up the Green Deal have been adopted and the other half is still being negotiated, hence the desire to make as much progress as possible in order to conclude before the next elections with a report that is as clear and as ambitious as possible.

The NZEI text is part of the answer to the American Inflation Rate Act (IRA) in order to simplify procedures and ensure that the investments in decarbonisation are made in the United States for the American market and in Europe for the European market.

The IRA in itself is good news: it marks the United States' entry into the race for green technologies.

In fact, 2022 will go down as the year when the zero-carbon race really got underway: Europe, United States, China, etc. However, if you look closely, the IRA presents investments that are overwhelmingly aimed at the US market (electric vehicles, renewable energies, CCUS...).

It is true that some are in direct competition between Europe and the United States, however in the end, both markets will have to be decarbonised anyway.

Today, the competition is on so we have to respond. It is the purpose of the new texts as well as of the future Sovereign Wealth Fund, to which we are paying close attention in France and which is due to be presented in June by the European Commission.

The Green Deal's Industrial Plan also emphasises the issue of skills.

It is indeed a key issue. There cannot be an industrial revolution without technologies, nor technologies without skills, from R&D to concrete industrial deployment.

But it is also a question of justice. Because, let's face it, while some businesses are growing fast, others are shrinking (e.g., electric batteries VS Diesel). To face this, we have obtained, for instance, the creation of a fair transition fund for employees of the automotive industry by 2025-2026.

The Hauts-de-France region is a striking example of our ability to reindustrialise by combating climate change and by decarbonisation. But as with any industrial revolution, there will be losers. So we need to support them to turn them into winners.

All this implies social policies but that's where Europe reaches its limits: it has few skills in this area.

While setting CO₂ standards for cars or imposing a carbon tax at borders is a European matter, there are other things that can only be done by the Member States, such as training and reskilling policies.

France currently lacks a system enabling companies to connect directly with each other to enter into training contracts so that employees of companies whose business is set to decline as a result of the transition can be immediately supported in changing their professional skills to turn them into tomorrow's winners in the companies that will be the winners. It is a powerful symbol: we're not letting you down, and we're giving you a second chance so that your new job is guaranteed.

Mr. Macron and Mr. Breton have spoken of a "doctrinal revolution". What are your thoughts on this?

We are indeed building a powerful Europe. It is the key concept that is completely changing the European doctrine, which was fundamentally that of a market Europe.

It ensured the prosperity, the integration and the development of global champions, but this is not enough. We are using the power of single market to turn it into a tool of geopolitical power. For example, through the carbon tax, we are asserting ourselves as a European power: the companies have the right to sell here, but there will pay the same price for carbon as our industrials.

Similarly, we want to guarantee European citizens that we are not complicit in deforestation elsewhere thanks to the law on deforestation which will prohibit access to the European market for products that cannot demonstrate that they do not come from deforested areas.

Another example is the change in the rules of the game regarding states rules, which used to be looked at according to their impact on the European market.

Today, we think more in terms of "matching proposal": if the United States are willing to put €100m of aid into an application, the application is legal up to €100m of aid when it reaches the Commission.

Finally, we are currently negotiating the electricity market reform to restore predictability to the price paid by industrials by encouraging long-term contracts.

This, too, is a change in doctrine and a highly-anticipated reform for our companies.

What is your position on the Green Industry Bill currently before the French Parliament?

I obviously support it. It is based on the same philosophy, which is above all to accelerate and simplify so that we can massively deploy green industries here at home.

Moreover, France is going to be the first European country to introduce the green tax credit, which is a direct response to the IRA.

To conclude, in addition to accelerating and simplifying, another important point is the desire to integrate all issues relating to carbon footprint as a differentiating factor.

For instance, in the bonuses and penalties system for cars, we are going to include not only the car's emissions but also those generated during the car's production process.

All this gives an advantage to the low-carbon mix. It's yet another way of combining the environmental and industrial dimensions.

TERRITORIAL MEETINGS

DECARBONISED MOBILITY, A LEVER FOR REINDUSTRIALIZATION

Lille, May 10th 2023

A successful first edition!

LAUNCHING OF THE TERRITORIAL MEETINGS

In 2023, the association is launching the Territorial Meetings, new pluriannual meetings based on the conviction that the ecological transition takes place at territorial level.

The TRANSITION FORUM was launched in 2018 by Lionel Le Maux, President of Aqua Asset Management and of the association.

It aims to provide a framework for high-level exchanges, in order to deploy faster and on a larger scale concrete projects dedicated to accelerating the ecological transition.

Reinforced in 2019 by the creation of the Transition Forum association, it brings together a whole ecosystem committed to working towards an effective ecological transition.

The event is driven by the conviction that this objective can only be achieved through systemic change and greater cooperation between all the stakeholders.

Alongside this annual event, whose sixth edition "Time for Solutions" will be held for the first time in Paris on November 14th and 15th, 2023, the association is launching a new event format: the Territorial Meetings.

The Territorial Meetings are shorter than the annual event – a half a day format – and bring together the actors of a region around a specific issue faced by this territory in its ecological transition. The theme falls under one of the association's five key themes: moving, food, housing, producing & consuming and preserving & protecting.

These meetings keep the same formula that made the success of the TRANSITION FORUM: to be a framework for exchanges and encounters, while allowing concrete ecological transition projects to emerge and be promoted.

The first edition of the Territorial Meetings was held on May 10th, 2023, in Lille. The next editions will take place in Lyon on September 14th and in Nantes on October 12th.

More information:
<https://www.transition-forum.org/le-forum>

READ ABOUT THE HIGHLIGHTS OF THE TERRITORIAL MEETINGS IN LILLE

The first edition of the Territorial Meetings took place in Lille on May 10th. This edition focused on decarbonised mobility, lever for reindustrialisation.

Held from 5pm to 10pm, this first edition was structured by dedicated sessions – inspiring keynote, round table, presentations of innovative solutions – offering different perspectives on a key theme in the ecological transition of the Hauts-de-France region. A hundred people took part in the event, which provided an excellent opportunity for the region's decarbonised mobility players.

OPENING

Lionel Le Maux, President of Aqua Asset Management and of the Transition Forum association, opened the event by recalling the convictions behind the TRANSITION FORUM and the resulting Territorial Meetings: the ecological transition requires players to be brought together in areas where they can exchange views and ideas, and is primarily played out at regional level.

KEYNOTE

Samia Buisine, Director General of the IRT Railenium and of i-Trans and elected representative in charge of the ecological transition and mobility at the city of Wattignies, emphasised the crucial role of research and innovation as a lever for the transformation and decarbonisation of industry. She reiterated the importance of the role played by all stakeholders: industry, public authorities and the general public must work together to achieve the ecological transition.

ROUND TABLE

Representatives from six organisations at the heart of the challenges of decarbonising mobility in the Hauts-de-France region - the Caisse d'Epargne Hauts-de-France, H2V, Enedis Hauts-de-France, Verkor, ACC and GRDF - shared their experience and knowledge. A wide range of subjects were discussed during this session, including : the need to strengthen and even create a competitive national industrial sector in line with the concepts of national sovereignty and

the regionalisation of value; the need for a territorial network of networks - gas, electricity, etc. - and the complementary nature of gas, hydrogen and batteries, each solution being better suited to certain uses. For all the speakers, the Hauts-de-France region is a driving force for reindustrialisation, the conversion of industry and the workforce, and the decarbonisation of mobility.

INNOVATIVE SOLUTIONS

This session highlighted solutions that are in need of support and development: the Ecotrain, a new mode of low-carbon mobility from the Stratiforme-Compreforme Group; Planet Soar's technology for decarbonising industrial processes; Stations-E's interoperable charging stations; Swoop Energy's model for reusing used car batteries and Rossini Energy's photovoltaic charging stations.

LAUNCH OF THE CEI

The association has officially launched the third Call for Expressions of Interest "Innovating for the ecological transition of territories", for which applications are now open. Find out more on page 17.

NETWORKING

The Territorial Meetings in Lille were punctuated by several networking sessions, enabling participants to meet and exchange. The evening ended with a cocktail reception, a convivial moment that also facilitated more informal exchanges.

TRANSITION FORUM

HERE & NOW

Our **members** are mobilizing to deploy solutions, to finance projects and to roll-out operating methods to build a more sustainable and low-carbon world

 SUSTAINABLE AND INNOVATIVE BUILDINGS

HOUSING

According to the French Environment and Energy Management Agency (ADEME), energy consumption in the building industry – the first sector in terms of energy consumption – has risen by 20% in thirty years. As buildings are at the heart of human activity, the challenges of adaptation, renovation and construction are crucial to the ecological transition.



ESSOR

© ISASOURI

The Ethicable project was entrusted to Essor by Ethiquable, a Cooperative and participative company (SCOP) specialising in the sale of organic fair-trade products. The project has just been awarded Silver status by the Sustainable Buildings Occitanie assessment committee (BDO) for its implementation phase.

Developed by Envirobat Occitanie, the BDO approach is an educational tool designed to support and assess the construction and renovation of buildings.

The silver level for the project's use phase is scheduled to be awarded in the course of 2024.

Delivered in 2020, the aim of the project was to rehabilitate a storage site and relocate a fair trade and organic chocolate manufacturing unit in the Gers region. Its purpose was also to create an educational tour and shop to introduce the public to fair trade cocoa and chocolate manufacturing.

The project has a positive environmental, social and economic impact, with the use of mostly bio-sourced and local materials, bioclimatic design, photovoltaic production covering 25% of the site's needs, the creation of twenty jobs, and the mobilisation of local businesses and cooperatives to carry out the work, among other things.

Website: <https://www.essor.group/>

 A COMMITMENT TO BIODIVERSITY

RAGNI

PRODUCTION & CONSUMPTION



The “*Entreprises engagées pour la nature*” (Companies committed to nature), run by the Office français de la biodiversité (French Office for Biodiversity) aims to “bring to light, recognise and promote” concrete actions taken by French companies to reduce the direct and indirect impact of their activities on biodiversity.

© FRED LEQUERE

The Ragni Group is a French group specialising in the design and manufacture of connected and solar-powered public lighting solutions and in the supply of connected technologies for local authorities.

Its parent company, Ragni, works with local authorities in France and abroad to help them deploy rational public lighting solutions that are compatible with current environmental and social challenges.

A member of the United Nations Global Compact since 2018, Ragni has also developed an action plan aligned with the National Biodiversity Strategy, enabling it to obtain

the “*Entreprises engagées pour la nature*” certification. The targets set for 2026 cover a wide range of topics, such as eco-conception, the reduction of energy consumption or the restoration of biodiversity in urban areas.

For example, Ragni has developed a prototype nesting box that can be mounted on any pole or directly integrated to the multifunction Korner bollard. Accessible to small birds without allowing access to predators, this module, designed in conjunction with the CEN PACA, is the result of R&D work on biocompatible lighting solutions to meet the challenge of the increasing scarcity of nesting sites.

Website: <https://www.ragni.com/>

 ADAPTING THE RAIL NETWORK TO CLIMATE CHANGE

SNCF RÉSEAU

MOBILITY

The damage inflicted by storm Alex on the hinterland of Nice at the end of 2020 is still fresh in people's minds and still visible to some. Being located on the Mediterranean basin, the Provence-Alpes-Côte d'Azur (PACA) region is one of the regions that will be most affected by climate change.



© SNCF RÉSEAU

Against this backdrop, SNCF Réseau, in coordination with the PACA region, has begun an analysis of its vulnerabilities, with the aim of determining an action plan to improve the network's resilience with technical or organisational adaptations.

The most accurately assessed hazards are extreme heat, forest fires, violent winds, clay shrinkage/swelling, flooding and torrential rain.

In addition, a number of actions are already implemented: each year, the edges of more than three

hundred kilometres of railways in sectors identified as being at risk are cleared of undergrowth before the summer period to anticipate the risk of fire.

SNCF staff also carry out heat rounds to increase surveillance of infrastructure (tracks, catenaries, IT cabinets) when temperatures exceed seasonal norms for several consecutive days. Athermic paints are also used to protect the most sensitive installations.

Website: <https://www.sncf-reseau.com/fr>

TRANSITION FORUM

WHAT'S NEXT?

THE TRANSITION INSTITUTE 1.5 : A positive first result for TTI.5

In our previous issue, we presented TTI.5, the Transition Institute 1.5 which was launched in May 2022 at the Ecole des Mines of Paris (Mines Paris - PSL) to consolidate in-house scientific work on the various challenges of the ecological transition.

Where is the Institute one year later and what are the prospects for the future?

In just one year, TTI.5 has created a community of exchanges including around a hundred of researchers, doctoral students, students and administrative staff involved in the project.

"We have been struck by the interest shown by young people in setting up the structure. This shows that it does meet a demand: young people are looking for meaning and want to get ready for a professional life in which they will find meaning", underlines Nadia Maïzi, director of the Institute.

Concrete actions since the start of the 2022 academic year

TTI.5 has launched seven theses and one post-doctoral research project of its own, and has labelled around thirty of the school's theses.

As its "brand" is complementarity, each of the thesis and the post-doc are carried out in two disciplinary department.

For instance, one of the theses associates the Economy, management and society department with the Energy and processes department; another the Mathematics and systems department with the Economy, management society department.

However, cross-fertilisation goes beyond the internal departments, as shown by the ongoing work on frugal models for decarbonated IA: it associates the Mathematics and systems department and the Cognitives studies department at Normale Sup. "This thesis is an emblematic example of our openness to other institutions, as the ENS is a PSL University institution".

The programming of the Institute's four axis⁽¹⁾ is based on joint development between in-house researchers and other players from different backgrounds. For each of these areas, an annual synthesis report will summarise the various scientific contributions made.

A fifth axis is already under study ("living planet") to provide a better understanding of biodiversity issues, including the relations between climate and biodiversity.

Finally, with the aim of crossing disciplines, TTI.5 has launched a series of themed seminars on cross-disciplinary subjects. Initially intended for internal use, this cycle is attracting an increasingly wide audience from outside, with nearly a hundred people attending each event.

At the end of May, the Institute also organised its first high-level forum on a deliberately offbeat subject (see box).

New deployment ideas already on the table

In addition to its activities at school level, TTI.5 is preparing a training course for public and private decision-makers.

This course, which is due to be launched in January 2024 in the form of a postgraduate college, will enable the

Institute to share its scientific expertise on the challenges of the ecological transition to facilitate and accelerate decision-making. More broadly, the Institute is also working on developing international academic partnerships to "implement concrete and useful actions", particularly in Africa.

"In terms of school organisation, our structure is positioned as a 'common good', a knowledge multiplier. We try as far as possible to bring together points of view that are not necessarily aligned. Our approach is to create synergies within the academic world rather than amplify divisions. Ultimately, our efforts in structuring our work represent a response by academics to the call for action in the latest IPCC report", concludes Nadia Maïzi, who is one of the 6th report's co-authors.

(1) The transition design; An electric planet; The inclusive planet; The planet as an area of influence

Website: <https://the-transition-institute.minesparis.psl.eu/>

A FORUM TO SHARE WITH AS MANY PEOPLE AS POSSIBLE

TTI.5 has chosen to dedicate its first forum to the security challenges of climate change in order, explains Nadia Maïzi, to "demonstrate the extent to which everything that concerns us is linked to the climate issue (technologies, defence, food, adaptation, migration). In fact, it is like a spider's web being woven around the climate, but today we still don't understand it everywhere". So the idea was to bring to the table a subject that was off conventional grounds, that would surprise people, that would be out of step with traditional subjects, in the image of the Institute's scientific programme. With this in mind, the five best works on environmental controversies from the third year of the Civil Engineering Cycle at Mines Paris - PSL were presented.

3 QUESTIONS TO:

CROSS INTERVIEW WITH TWO KEY PLAYERS IN THE FIELD OF BATTERIES FOR ELECTRIC VEHICLES: ACC AND VERKOR

Developing a battery industry in France and Europe is fundamental to meeting the carbon neutrality targets. It is also a strategic and sovereignty issue. As the Hauts-de-France region is about to become the "Battery Valley" for electric vehicles (EV), we spoke to two leading French players in the field: Jean-Baptiste Pernot, COO of ACC (Automotive Cells Company) and Sylvain Paineau, co-founder of Verkor, both of which are deploying a production site, respectively in Billy-Berclau / Douvrin and in Dunkirk.

First of all, could you remind us of the main features of your future battery cell and module production sites (planned capacities, number of direct jobs created, innovative solutions used, etc.)?

JBP: ACC has five sites in Europe, two of which are operational: Bruges near Bordeaux since September 2021 and Nersac, our pilot plant, near Angoulême, since March 2022.

We are working on three gigafactory sites in Billy-Berclau/Douvrin in France, but also in Germany (Kaiserslautern) and in Italy (Termoli).

Our aim is to exceed 40 GWh on each site. At Billy-Berclau / Douvrin, the first block was inaugurated on May 30th and its production will start at the end of the year with a capacity of 15 GWh. Construction of a second block is due to start later this year.

With the German and Italian plants, total capacity will reach 120 GWh in 2030.

In terms of headcount, we exceeded 1,000 employees at the start of the year and we plan to recruit around 1,000 people a year over the next six years at our various sites.

ACC was created in 2020 but preparations for the project had already started in the second half of 2018.



JEAN-BAPTISTE PERNOT
CHIEF OPERATING OFFICER OF ACC
(AUTOMOTIVE CELLS COMPANY)

We are strongly investing in R&D because we are looking ahead to future generations of batteries: the ones that will be produced by the end of 2023 will have a strong energy density, a high nickel content and liquid electrolytes.

However, in the end, we will produce solid electrolytes

batteries which will deliver even greater energy density and will be less prone to thermal runaway. We are also working on new chemistries and new mechanical designs (e.g. copper or aluminium foils as well as ever finer separators for denser batteries).

As li-ion technology is not yet mature, we need to bring out a new generation of electrochemistry every two years.

The same goes for processes and equipment of fabrication (e.g. fast, dry assembly process, etc.).

Actually, there are as many evolutions on processes as there are on the product itself. And gigafactories should, in time, be more compact, less expensive and produce just as much, if not more.

SP: We at Verkor started from scratch in July 2020 with five partners. We have several sites, including one in Grenoble which is operational since 2022 (the Verkor Innovation Centre).

We chose the Dunkirk port site for our first gigafactory because it offers a large surface area that will enable us to generate up to 50 GWh of capacity. We will start with 16 GWh. In Grenoble, we are currently employing more than



SYLVAIN PAINEAU
CO-FOUNDER OF VERKOR

300 people of 37 nationalities (including a lot of experts from all over the world).

And at the gigafactory, we plan to grow from 300 people to 1,200 in 2027. We are working with our customers on the design of our high-performance batteries, in particular in terms of autonomy and fast charging.

For Verkor, two key points are the low-carbon battery (overall carbon footprint) and 4.0 or the "manufacturing excellence": we are focusing on manufacturing processes and on the ability to integrate digitalisation to increase yields.

This involves working on data collection and analysis, increasing manufacturing performance in terms of volume, and so on. And there are still more improvements to come.

Doesn't industrialising the battery industry mean working on the entire carbon-free mobility value chain? What's more, your projects have the backing of your future customers: Renault for Verkor and Stellantis and Mercedes for ACC. Can you tell us more about this?

SP: At Verkor, our projects are backed up by customers who have made a commitment. Renault Group, in particular, is both one of our strategic investors and a customer.

JBP: This model was original five years ago. But today, most carmakers have invested in one or more battery manufacturers. Many are finally bringing the battery in-house, or at least investing in their supplier, because for them, the battery is not a 'trivial' component.

At the same time, we are striving to develop an ethical supply chain, which involves very tight controls on the battery.

In fact, the situation has changed completely in five years as the EV has moved from the periphery to the heart of manufacturers' strategies.

It's because carmakers have had to switch to EVs that the industry has developed in this direction, from downstream to upstream.

And the value chain is increasingly driven towards Europe.

There is still the question of mines: for example, ACC is working on a geothermal lithium project in the Rhine valley.

SP: There is also the question of urban mining, which is benefiting from strong incentives from Europe. At Verkor, we have integrated the notion of circular economy right from the start.

JBP: It's true, recycling will gradually increase. The battery will have to stabilise. Let's not forget that we no longer need lead mines for lead batteries...

But to get there, we'll have to reach the volume plateau. For the moment, we are in an exponential phase.

For ACC, recycling and CSR content are two major areas of differentiation and value.

Even if Europe is 10-15 years behind the forerunners in Asia, our ambition is to be among the best.

As Europeans, we have two areas of added value: low-carbon content (cf. the objective of zero-emission battery factories) and work with the supply chain (at ACC, 80% of components are purchased in Europe and we are aiming for 100% in a few years' time). We are really speeding up the localisation of the value chain in Europe and, if possible, in France.

Even if the logic of encouraging short supply chains is obvious, how can we cope with the rising cost of raw materials and energy? And, at the same time, how do you ensure that your much more virtuous batteries (decarbonised energy, reduced environmental impact, digitalisation, recyclability, etc.) do not weigh too heavily in terms of costs?

SP: It is a real challenge. Energy costs contribute to the final cost of the product. The response has to be not only national but also European.

We are not energy-intensive but of course we do consume electricity or steam.

JBP: Yes, it is something to be worried about, because the aim is to bring down the cost of EVs. So, for now, it's not easy.

But we do have some levers. R&D, among other things, enable us to optimise energy demand and limit the amount of material needed to produce the same kWh. Other process improvements are helping to reduce electricity consumption. The supplier base is also changing.

For example, the price of lithium, which had risen, has already fallen slightly and it should continue with the plans to open new mines.

And on top of these various factors, we are going to benefit from scale effects, as we are

moving from a "small series" mode to a "very large series" mode.

SP: I would also add that we have no reason to be ashamed of our skills in terms of digitalisation: the world leaders are European and they enable us to set up particularly high-performance manufacturing plants.

JBP: That's true, we should be proud: we have very good engineers, very good technicians and an industrial and technological history to succeed. In fact, another challenge facing our emerging industry is training and recruitment.

ACC website:
<https://www.acc-emotion.com/fr>

Verkor website:
<https://verkor.com/>

Launching of the 2023 call for expression of interest

The third edition of the Call for Expression of Interest (CEI) "Innovating for the ecological transition of territories" was launched during the Territorial Meetings in Lille on May 10th, 2023, in partnership with Enerlis and Aqua Asset Management.

Launched in January 2021 by the association, this CEI aims to identify innovative projects that meet the challenges of the ecological transition of territories and to showcase them to a community of over 15,000 decision-makers and investors.

It is open to companies, local authorities, public institutions and research institutes which are developing innovative and replicable ecological transition projects based on public-private cooperation. These projects address issues relating to five key themes: production and consumption, food, housing, moving and, from now on, preservation and protection.

The second edition of the CEI identified around a hundred of ecological transition projects in mainland France and overseas – a significant increase compared with the 2021 edition. Six winners, including one « coup de cœur » from the jury, were selected.

In 2023, the most inspiring and exemplary projects will be selected by a prestigious jury. Five winners will benefit from a promotion campaign and from a networking campaign.

The members of the 2023 CEI jury

AURÉLIE GAUDILLERE

Aurélié Gaudillère is CEO and co-founder of Enerlis, a global energy transition operator that provides integrated energy efficiency and renewable energy solutions for buildings and mobility.

LIONEL LE MAUX

Lionel Le Maux is president of the Transition Forum association and of Aqua Asset Management, an independent asset management company specialising in sustainable investment.

VANINA PAOLI-GAGIN

Vanina Paoli-Gagin is senator of the Aube region and founder of Law Impact Avocats, a firm whose commitment to the ecological transition is reflected both internally – limitation of carbon footprint – and externally with the clients it supports.

SÉBASTIEN PAOLOZZI

Sébastien Paolozzi is the CEO of Prodeval, a specialist in the treatment and recovery of biogas from the methanisation of organic waste.

LAURE VERHAEGHE

Laure Verhaeghe is co-founder and CEO of Lendosphere, a platform specialising in participative financing dedicated to the ecological and energy transition.

Apply online before
SEPTEMBER 29TH, 2023

www.transition-forum.org/projets

TRANSITION FORUM

SOLUTIONS

What has become of the **CEI 2022 winners** ?
**FRENCH POLYNESIA MARINE RESOURCES DIRECTORATE
DEVELOPING A LOCAL AND SUSTAINABLE AQUACULTURE CENTER**
THE BIOMARINE ZONE PROJECT IS REACHING MATURITY

French Polynesia offers an insular environment with significant aquaculture potential. However, according to the Directorate of Maritime Resources (DRM), this potential has not been fully exploited to date and the sector needs to be developed and boosted.

The Biomarine Zone is a project to develop a 33-hectare wasteland at Faratea (on the Tahiti peninsula), with plans to set up various aquaculture operations - breeding farms, hatcheries and production units. It includes a section on preserving the coastal zone by banning a certain number of chemical products, among other things.

The ceremony to lay the foundation stone for the Zone, named Aruhotu ("fertile ecosystem" in mā'ohi), took



© C. MISSELS

place in February 2023, in the presence of the President of French Polynesia, Edouard Fritch. The construction work, scheduled to start in August-September 2023, will last eighteen months.

Website: <http://www.ressources-marines.gov.pf/>

FIND OUT MORE ABOUT THE WINNING PROJECTS: <https://www.transition-forum.org/ami>


ECO IN PACK – CIRCULAR ECONOMY AND REEMPLOYMENT OF GLASS BOTTLES
LAUNCHING OF THE CLEAN BOTTLE PILOT WORKSHOP

According to Zero Waste France, the reuse of glass packaging results in "a reduction in greenhouse gas emissions compared with their single-use equivalents (-85%)" and also has a positive social impact through the creation of jobs that cannot be relocated.

Eco In Pack addresses this challenge with the Clean Bottle, a solution thanks to which glass bottles of any shape can be washed and reused as part of a circular economy approach.

The company is setting up a real recycling ecosystem, from collection points to the industrial washing model, as well as contracts with collection, sorting and storage partners.

Last September, Eco In Pack opened a pilot workshop with a washing capacity of 500,000 bottles a year. Located at the Arche en Charente in Cognac, it was officially inaugurated



© ECOINPACK

in October in the presence of its partners, including the Nouvelle-Aquitaine region, the Grand Cognac urban area, the town of Cognac, the ADEME, the BPI France and the Réseau Entreprendre.

The company plans to open an industrial centre next year, which will significantly increase its capacity.

Website: <https://www.ecoinpack.com/>


VERTUO – SUSTAINABLE URBAN GREENING
THE DEPLOYMENT OF THE GREENING SYSTEM

Nature is more than ever synonym with quality of life in the cities. It is at the heart of the issue of adaptation to climate change through, for example, the fight against urban heat islands. However, the urban environment does not always allow for this greening.

The Vertuo system meets this challenge: by reproducing the water table in the city, it makes it possible to plant wherever necessary.

Not only does it sustain nature in the city, it also offers an economical urban greening: this low-tech solution saves 80% on maintenance and requires no watering thanks to the collection and reuse of rainwater. Since being selected as one of the winners of the CEI 2022, Vertuo has deployed fifty projects in France.



© VERTUO

For example, the system has been installed on rue Ampère, in Saint-Ouen, in the future Olympic Village of Paris 2024. The startup is also one of the "100 start-ups to invest in in 2023" selected by Challenge magazine

Website: <https://www.vertuo.city/>

TRANSITION FORUM

INITIATIVES

Everywhere in the territories, **initiatives and networks** bringing together young people committed to the transition to a **low-carbon future** are being set up.

Following on from the Sulitest, an interactive digital awareness-raising tool launched ten years ago by the association of the same name, its creators wanted to go one step further and have developed the first international certificate of sustainable development knowledge: **TASK – The Assessment of Sustainability Knowledge**. Let's take a closer look at this new tool.

First international certificate of knowledge on sustainable development

Created after Rio+20, the Sulitest (Sustainability Literacy Test) is an MCQ consisting of a common international module of 30 questions and a national module of 20 questions. Organisations (universities, schools or companies) that opt for premium access can add modules specific to their markets and their activities. To date, almost 230,000 people from all over the world have taken the Sulitest.

Faced with the growth of the movement, the two founders – Jean-Christophe Carteron and Aurélien Descamps – decided to go further. In 2021 they created a social economy company – SAS

Sulitest Impact – and then raised €1.5 in 2022 to support their certification project.

Making sustainability a common language

Things have changed a lot in the last ten years: more and more establishments are offering training in sustainable development but we still do not really know what is taught and what students learn from it.

Moreover, if we are to bring about a profound transformation of our society, knowledge cannot remain the prerogative of experts alone: everyone must have a sufficient understanding of the issues to be able to incorporate them into their personal and professional practices and decisions. Hence

the idea of creating a certification that would “provide relevant and comparable measures for monitoring and steering education for sustainability in any academic programme”.

The TASK was launched at the beginning of March 2023 after a four-month test period with students and professionals.

It includes 112 questions based on three major themes: the Earth system (main or regulating planetary limits), human well-being (basic needs, social well-being...) and levers for action (governance, economy and finance, science and technology, etc.).

The designers drew their inspiration from three main sources: the UN's 2030 Agenda (the 17 SDGs), the Stockholm Resilience Institute's integrated conceptualisation of sustainability as part of the nine planetary limits, and the work on the donut theory by British economist Kate Raworth*.

This standard certifies a level of knowledge and makes it comparable from one country to another.

The certificate, which can be used on a CV or LinkedIn profile, is proof of a level of knowledge about sustainable development as well as a determination to make a positive impact.

About twenty higher education establishments have already committed to certifying at least 75% of their graduates with TASK, in France and internationally.

Note

*« La théorie du donut : l'économie de demain en 7 principes », Plon, 2018.

Visit the website:

<https://www.sulitest.org/task>

SHARING A COMMON KNOWLEDGE BASE: A NECESSITY

For the creators, “this is the common base of knowledge that tomorrow will enable an engineer to discuss or build with a manager or even a biologist. Of course, knowledge is not enough, and acculturation to sustainability also implies skills, mentalities and behaviours that will enable us to take action. However, we all know that sharing a common knowledge base is essential to enable transformative actions and to trigger a systemic change”.

TRANSITION FORUM

THE TRANSITION FORUM ASSOCIATION

Association committed to accelerating the transition towards a low-carbon future

The Transition Forum association, created in 2019 by the independent management company Aqua Asset Management, brings together a community of public and private decision-makers committed to accelerating the ecological and energy transition.

It facilitates the emergence of concrete and innovative solutions addressing the challenges of decarbonisation at territorial level, as well as the development of new forms of cooperation. It also provides elaborated information on the theme of the transition towards a low-carbon future.



In addition to the CEI (page 17) and the Territorial Meetings (page 8) – the next of which are scheduled for September 14th in Lyon and October 12th in Nantes – the sixth edition of the TRANSITION FORUM, the association's flagship event, will be held for the first time in Paris on November 14th and 15th, 2023.

It will bring together public decision-makers, business leaders, founder of startups and entrepreneurs, representatives of civil society, investors, innovators, researchers and scientists who share a commitment to a sustainable world, around the theme "Time for solutions".

Joining the association entails a commitment to work towards an effective ecological transition and the conviction that this objective cannot be achieved without greater cooperation between all the players involved. We need to respond to the urgency of the climate situation by acting now to build a new development model that is more respectful of the environment.

The two days of this annual event will be organised around five sessions designed to provide some answers to issues at the heart of the ecological transition : moving, food, housing, production and consumption, preservation and protection.

FIND OUT MORE AND REGISTER: <https://event.transition-forum.org/>

Lyon, September 14th 2023 at 9am

AGRICULTURE, A MAYOR CHALLENGE FOR REGIONAL SUSTAINABILITY

Confluences Museum – 86 quai Perrache, 69002 Lyon

TERRITORIAL MEETINGS

Nantes, October 12th 2023 at 9h

Theme to be confirmed

Little Atlantique Brewery – 23 Bd Chatenay, 44100 Nantes

The new format of events, launched by  **TRANSITION FORUM** dedicated to regions

COMMITTED TO AN ECOLOGICAL TRANSITION

TIME FOR TRANSITION

HIGHLIGHTS - INSIGHTS - SHARING ON THE ECOLOGICAL TRANSITION

We sincerely thank all the members and partners of the Transition Forum association – territories, companies, investors, entrepreneurs, R&D labs for their contributions to the animation of the community.

We would also like to thank the hundred or so developers of innovative solutions for the ecological transition, conceived in cooperation with the regions, who responded to the Call for Expression of Interest in the first half of half of 2022.

EDITORIAL COMMITTEE:

Catherine Le Maux, Lionel Le Maux, H el ene Bouillon-Duparc, Fanny Bornarel, Rodolphe Garcia

GRAPHIC DESIGN: Le BDC

If you want to promote your ecological transition projects to international decision-makers and join an active community committed to a low-carbon future, write to us at: contact@transition-forum.org



Transition Forum Association
6, square de l'Op era Louis Jouvet
75009 Paris
contact@transition-forum.org