

NOV  
2022

# TIME FOR TRANSITION

HIGHLIGHTS - INSIGHTS - SHARING ON THE ECOLOGICAL TRANSITION

## ECOLOGICAL TRANSITION: ACTING NOW, AND NOT TOMORROW

### EDITORIAL

**LIONEL LE MAUX**

PRESIDENT OF THE TRANSITION FORUM ASSOCIATION

### INTERVIEW

**BRUNO BONNELL**

SECRETARY GENERAL FOR INVESTMENT IN CHARGE OF FRANCE 2030

### TRANSITION FORUM 2022

THIS 5<sup>TH</sup> EDITION WAS A GREAT SUCCESS !

### HERE & NOW

OUR MEMBERS ARE ACTIVELY DEPLOYING SOLUTIONS, FINANCING PROJECTS AND ROLLING-OUT OPERATING METHODS TO ACHIEVE CARBON NEUTRALITY

### WHAT'S NEXT?

THE TRANSITION INSTITUTE 1.5: A NEW INSTITUTE DEDICATED TO THE CHALLENGES OF THE LOW-CARBON TRANSITION

### SOLUTIONS

INNOVATIVE ECOLOGICAL TRANSITION INITIATIVES AND PROJECTS FROM THE "INNOVATIVE SOLUTIONS" SESSIONS OF THE TRANSITION FORUM 2022 AND FROM THE CEI 2022, LAUNCHED BY THE ASSOCIATION

### 3 QUESTIONS TO

**FRÉDÉRIC MARCHAND**

SENATOR FOR THE NORTH AND AUTHOR OF A REPORT ON TERRITORIAL FOOD PROJECTS

### INITIATIVES

YOUTH FOREVER WISHES TO ESTABLISH A GENERATIONAL PACT BETWEEN COMPANIES AND YOUNG PEOPLE

### WHAT'S UP?

ARHYZE, A NEW MODEL IN RENEWABLE HYDROGEN PRODUCTION

BIOTOPE AND FRANKLIN ENTER THE SUPPLY-SIDE OFFSET BUSINESS

**TRANSITION  
FORUM**



# ECOLOGICAL TRANSITION: ACTING NOW, AND NOT TOMORROW

COVER



**Camille Pissarro (1830–1903)**

Vegetable Garden in Eragny,

Overcast Sky, Morning

Date: 1901

Medium: Oil on canvas

TRANSITION-FORUM.ORG

## TIME FOR TRANSITION

HIGHLIGHTS - INSIGHTS - SHARING ON THE ECOLOGICAL TRANSITION

NOV  
2022



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

<b>EDITORIAL</b>	<b>5</b>
<b>INTERVIEW</b>	<b>6-7</b>
<b>2022 TRANSITION FORUM</b>	<b>8-13</b>
<b>HERE AND NOW</b>	<b>14-15</b>
<b>WHAT'S NEXT?</b>	<b>16-17</b>
<b>SOLUTIONS</b>	<b>18-23</b>
<b>3 QUESTIONS TO</b>	<b>24-25</b>
<b>INITIATIVES</b>	<b>26-27</b>
<b>WHAT'S UP?</b>	<b>28-29</b>



**"COOPERATION IS THE KEY TO A SUCCESSFUL ECOLOGICAL TRANSITION. IT IS THIS CONVICTION THAT LED TO THE CREATION OF THE TRANSITION FORUM ASSOCIATION"**

**>> JOIN THE ASSOCIATION**

**JOIN AN INTERNATIONAL COMMUNITY OF PLAYERS COMMITTED TO ACCELERATING THE ECOLOGICAL TRANSITION.**

[www.transition-forum.org](http://www.transition-forum.org)



*Join us*

EDITORIAL

## **THE TRANSITION FORUM 2022: A RESOLUTELY ACTION-ORIENTED EDITION**

This 5<sup>th</sup> edition, held on September 29 and 30 in Nice, confirmed that the Transition Forum has become a key event in the ecological transition agenda. No less than one hundred speakers presented their projects, initiatives and innovative solutions during thematic round tables, featuring several keynotes given by a rich array of high-level private and institutional players. The Ministers for Energy Transition and Ecological Transition respectively closed the first and second day. The event welcomed 1,500 participants and had more than 300,000 views online.

One of the main success factors of the Transition Forum is its ecosystemic character. Since its inception, it has sought to bring together different but complementary actors. The winners of the CEI *"Innovating for the ecological transition of territories"* launched by the association, who were present at this 2022 edition are a good example of this. If this will to bring together all the stakeholders was a source of questioning for some people five years ago, it has become a strength welcomed by all today.

Another high point of this 5<sup>th</sup> edition is that the exchanges were resolutely pragmatic and action-oriented, demonstrating the awareness of all the players with regard to the current energy crisis. Although we had chosen the theme *"Time to accelerate"* a year ago, the subject was implicit all along the forum: everyone made it their own, both from the point of view of the ecological transition and in response to the challenges generated by the rise in energy prices. The challenges are no longer just about 2050, or even 2030, but also for the coming winter.



However, this rise in prices also brings as a corollary the rise in interest rates, which may impact on projects linked to the ecological transition. In general, the projects that are showing the strongest development are also those that are the most firmly rooted in the territories, and that features levels of technical complexity, which makes them riskier but also more profitable (biogas, decentralised solar power, hydrogen mobility). This rise in rates will therefore force the various players to focalise on these more complex and decentralised projects, with economic models that are operationally richer (storage, APP, recharging stations, electricity cut-offs), which promise exciting discussions at the next Transition Forum !

**LIONEL LE MAUX**

President of the Transition Forum Association and  
President of Aqua Asset Management

# THE INTERVIEW



**Bruno Bonnell**

Secretary General for Investment  
in charge of France 2030

**"WE WANT TO FURTHER  
STIMULATE OPEN AND  
DISRUPTIVE INNOVATION"**

## **COULD YOU PRESENT THE FRANCE 2030 PLAN LAUNCHED JUST ONE YEAR AGO?**

France 2030 is a 54-billion-euro effort by the government to boost innovation in all its forms. It has two major objectives: decarbonising everyday life (at a personal and professional level) and investing in training skills of one million people for the future.

In fact, these two objectives are inseparable. France 2030 is focused on five areas, all of which correspond to societal demands: health; eco-energy transition (50% of the budget, broken down into two areas: decarbonisation of energy generation and decarbonisation uses in everyday life - industry, agriculture, healthy and sustainable food, sustainable cities, new forms of mobility, etc.); knowledge (basic, higher and lifelong education, research and development but also culture which is a determining factor in the country's competitiveness); digital sovereignty; new frontiers (space, deep sea, quantum).

France 2030 is steered by the General Secretariat for Investment, on behalf of the French Prime Minister, in conjunction with all the associated ministries and implemented by four operators: the French Environment and Energy Management Agency (Ademe), the National Research Agency (ANR), Bpifrance and the Caisse des Dépôts.

It is a performance effort, not a window-dressing one: the idea is to present the best file. The objective is therefore twofold: to create champions and to seek excellence.

## **WHERE DO WE STAND ON THE "ECO-ENERGY TRANSITION" ASPECTS AFTER ONE YEAR?**

Actually, there is not a single France 2030 project which does not integrate the eco-energy transition, whether it deals with providing decarbonated energy or encouraging decarbonising uses. Because decarbonisation is in itself the DNA of France 2030, 50% of the credits are devoted to it. It is not a question of more or less, it is a question of doing better. Therefore, the whole plan is geared towards the eco-energy transition, including the training of new talents.

## **SO YOU WISH TO BRING OUT THE BEST IN INNOVATION IN EACH REGION TO MEET THE MAIN SOCIETAL DEMANDS?**

Yes indeed, the idea is truly to support innovation for all and by all in each region, as opposed to a "regal" plan. This is, by the way, why we are proceeding more by calls for expressions of interest (CEI) than by calls for projects. This gives unexpected projects a better chance to emerge.

## **HOW IS THE TERRITORIAL DEPLOYMENT ORGANISED, ESPECIALLY SINCE FRANCE 2030 HAS TAKEN OVER THE FUTURE INVESTMENT PROGRAMME (PIA) WHICH WAS ESSENTIALLY FOCUSED ON THE TERRITORY OF "ÎLE-DE-FRANCE"?**

Regarding the PIA, 48% were indeed from Île-de-France. Today, 44% are from that region, so we are making progress. Our objective is to reproduce the balance region as it is at the economic level. The regions must therefore participate and propose subjects.

Regarding France 2030, the deployment is carried out through two important points. On the one hand, we are proceeding with a "regionalised France 2030" version in which the State and the regions intervene in equal measure. In other words, for every euro provided by the State, one euro is also provided by each region. The State is devoting €500 million to this. On the other hand, a regional monitoring Committee has been set up under the authority of the Prefect of the Region. These committees, which are totally agnostic and apolitical, have been in the process of being set up since this summer (Grand-Est, PACA, AURA, Hauts-de-France, Nouvelle Aquitaine, Bourgogne-France Comté) and soon Corsica, Normandy, Pays de la Loire, Bretagne, etc.

Numerous initiatives have already emerged, such as the revival for a linen industry in Hauts-de-France region. Until now, the linen produced in France was processed in China and returned in the form of fabric or clothing. The idea is to find a more virtuous circle. At the same time, major national projects are also being carried out with the key players throughout the region (e.g., nuclear with the CEA, space with the CNES).

## **WHAT IS THE PROCEDURE FOR PROCESSING PROJECTS APPLYING FOR THE SCHEMES?**

Depending on the scheme, international juries of experts and committees of experts validate the reliability of the projects. From there, we can provide three types of support: equity, grants or repayable advances if an economic return is already estimated. Our

objective is to considerably simplify the methodology of calls for tender (with, among other things, less paperwork). The examination files are more complete, which allows us to say no very quickly to some and thus increase the chances of success for others.

Moreover, our choice to favour CEIs rather than calls for projects allows us to open the field to different initiatives. We are indeed convinced that innovation often comes from the unexpected. This is the very principle of disruptive innovation.

The number one key to our evaluation is to check that the project presented meets a truly identified societal demand. For example, among the new calls that we are going to launch in 2023, one of them will concern sobriety: for us, it is a question of combining energy sobriety with innovation and not only with constraint (e.g.: optimising the electricity consumption of companies and local authorities). Other calls will concern installations and renovation in the water sector (e.g.: double water circuits). The idea is to increasingly stimulate open and disruptive innovation.

To prepare all these calls for applications, we work in coordination with the ministries concerned by each theme. In this collective organisation, the General Secretariat for Investment is positioned as the hub of innovation. And in this context, I see myself as the coach of the France 2030 team, my job being to federate a common dynamic and to choose the best to make France win!

## **FRANCE 2030 COMBINES THE ECO-ENERGY TRANSITION WITH SOVEREIGNTY. AN INCREASINGLY CRUCIAL ISSUE AT THE MOMENT...**

Implicitly, we are strengthening sovereignty, the idea being to be less dependent on the outside world. This pushes us to look for initiatives. The revival of sovereignty is a direct consequence of what we are doing by promoting the local, intelligence and innovation. It is an ambition that can only succeed if we work collectively, with real collaboration between many complementary forces. It is really a question of having a 360° vision of the problems. Money is not enough, training is also needed.

The solution requires not only awareness, but also providing financial support (like France 2030) and teaming up with all available forces.

## **THE TRANSITION FORUM 2022'S THEME WAS "TIME TO ACCELERATE". WHAT IS YOUR VISION OF ACCELERATION?**

From my point of view, acceleration is not due to the means employed but to the awareness - and above all - the energy that everyone puts into it. Acceleration is essential in the ability to make women and men aware that all the current issues are also their problem. It is not a question of saying who is to blame. This is not a question of guilt but of reality.

My deepest conviction is that this acceleration is human, it is nothing else. Even those who don't have the means go for it, while those who have a lot of means sometimes don't do much. So for me, the role of individuals is the real factor of acceleration.





**This 5<sup>th</sup> edition  
was a great success !**

Organised this year on September 29<sup>th</sup> and 30<sup>th</sup> in Nice, the fifth edition of the TRANSITION FORUM brought together more than 1,500 participants on site and more than 300,000 online viewers followed the exchanged online.

This year's TRANSITION FORUM included more than 20 hours of round tables, presentations of innovative solutions and interviews on key themes and issues of the ecological transition. More than 100 speakers took part in the various sessions of the event.

International public and private decision-makers, personalities from civil society, scientists, entrepreneurs and industrialists from all sectors have once again made these two days a key event in the ecological transition.

  
1,500  
participants

  
100  
speakers

  
300,000  
online viewers

# TRANSITION FORUM 2022 TIME TO ACCELERATE

The 5<sup>th</sup> edition of the TRANSITION FORUM was held on September 29<sup>th</sup> and 30<sup>th</sup> at the Palais de la Méditerranée in Nice.

"What is certain is that this 21<sup>st</sup> century will be one of ecological transition, or it will not be. This is a pressing obligation [which] should be shared. That is the whole spirit of this Transition Forum. When I created it five years ago, I created it with the eyes of an investor who realises that this ecological transition can only work if, very early in the process, we involve all the stakeholders: public and private decision-makers, personalities from civil society, start-ups, investors and researchers", said Lionel Le Maux, President of Aqua Asset Management and Founding President of TRANSITION FORUM, at the opening of the event.

Many projects, initiatives and innovative solutions related to the ecological transition were presented. They were structured around the four main themes of the association.



Food



Housing



Mobility



Production and consumption

Inspiring keynotes, round tables and presentations of innovative solutions followed one another during these two days and addressed key issues of the transition towards a low-carbon world.

At the end of this fifth edition, a call for mobilisation and cooperation rings out: the climate emergency is more than ever a reality and it is therefore essential to implement joint and global actions in order to accelerate the necessary changes.



## TRANSITION FORUM 2022

### A LOOK BACK ON THE SESSIONS THAT MARKED THE EVENT

#### TIME TO ACCELERATE: THE CHALLENGES OF ECOLOGICAL PLANNING AND ENERGY SOBRIETY

Last summer's heatwaves are a harbinger of events that are likely to become more intense and more frequent. We need to accelerate if we are to meet the targets for limiting global warming, explains Nathalie Hilmi, lead author of the Adaptation component of the IPCC's 6<sup>th</sup> report.

According to Bruno Bonnell, in charge of France 2030, "a radical transformation of society" is necessary. The business leaders speaking emphasised, among other things, the importance of training and regulation to facilitate faster, more widespread but also better accepted action.

At the end of the first day's debates, the French Minister for Energy Transition, Agnès Pannier-Runacher, spoke about the energy crisis and the need for sobriety, but also about the need for energy sufficiency.

#### HOW TO ACCELERATE THE DECARBONISATION OF TRANSPORT?

Freight transport accounts for 10% of global GHG emissions. Benoît Tinetti (CMA-CGM) stressed the responsibility of the transport sector and its companies in the ecological transition.

The speakers presented regulations as essential in the decarbonisation of transport, but underlined their limits as well, particularly when they are not followed by application and real actions by the players. Similarly, collaboration is fundamental, in particular to identify solutions and innovations that would allow the whole sector to be decarbonised.

The question of transport prices and more specifically price competitiveness, as well as taxes or eco-taxes are also at the heart of the discussion. Should the price of transport be higher if it pollutes more?

#### WHAT FOOD SOVEREIGNTY IN A WORLD IN TRANSITION?

This question raises both the issue of production and of consumption: it is a matter of producing enough, but also of producing well, whether in terms of quality or respect of the environment.

During this round table, actors from various backgrounds shared their vision of a food sovereignty adapted to the ecological transition. A certain form of interdependence cannot be erased, hence the necessity for common policies.

Reterritorialization and locality are at the heart of the reflection, as well as investment issues, particularly in the entry-level segment. The need to train and educate consumers, whether to raise awareness of the difficulties faced by producers or to act on the acceptability of certain prices in particular, was also mentioned.

#### HOW TO ACCELERATE ECOLOGICAL TRANSITION IN THE TEXTILE SECTOR?

The "fast fashion" business model was questioned and the concepts of circular economy, eco-design and sustainability were mobilised in order to redefine the sector.

According to Hélène Valade, Development & Environment Director for the LVMH Group (photo), apart from the question of quality, the one of beauty is at the heart of the transformation of fashion, in particular with regard to products made from recycled matters. For her, luxury has a knock-on effect on the rest of the sector, as it can set new aesthetic standards.



© MAFREGARDS

The various players also called for collaboration between companies and with local authorities. "Brands understand that they will get nowhere on their own. Even though when we think about a commercial strategy, we don't talk to anyone, on these environmental issues of tomorrow, brands talk to each other", says Delphine Lebas, CSE Director of Petit Bateau.

#### IS ZERO CARBON PACKAGING POSSIBLE?

The packaging sector has until recently been intrinsically linked to a linear economy, which is now known to be unsustainable. However, innovations and new ways of operating which are limiting the negative impact of this sector, are emerging.



© MAFREGARDS

Several speakers presented their own solutions: Eco In Pack highlighted the advantage of reusing products (glass bottles), which is sometimes more virtuous than recycling; Sempack presented a new type of packaging that also makes it possible to fight against food waste...

The brands, for their part, testified to the difficulties linked to the "zero carbon" objective in packaging, which can be reduced but whose role of protecting the product remains necessary. As Guillaume Gibault, founder of Le Slip Français (photo), said, "the real zero packaging is when you don't have any".

The real question is then rather to limit its use, to keep it only when it is necessary and to ensure that it is produced in the most virtuous way possible.

#### WHICH ENERGIES TOMORROW AND AT WHAT PRICE?

"The energy of tomorrow is the one we do not consume", states Sylvie Jéhanno, CEO of Dalkia. Energy savings are at the heart of the discussions

of this round table. One of the challenges is to ensure them in the long run, a challenge that energy performance contracts, digital monitoring tools and energy efficiency plans can partly meet.

The energies of tomorrow are also renewable energies, one of the stakes being to make them competitive on the market and viable, in particular in regard to fossil fuels. It is also a question of adopting a multi-factorial vision.

For example, digital technology, which accounts for 3% of final energy consumption in France, must not be seen as an ideal solution and must be taken into account in sobriety plans.

Several speakers, including Nadia Maizi, lead author of the 6<sup>th</sup> IPCC report, asserted that climate change cannot be thought in terms of borders, since it transcends them.

However, this does not exempt us from organising ourselves at the level of each territory or from the need to deal with the reality that today, energy has a nationality.

#### BUILD OR RENOVATE, THE DILEMMA FOR PROFESSIONALS

The real estate sector accounts for 30% of carbon emissions in Europe. It is therefore a key sector in the ecological and energy transition.

The "zero land reclamation" law, combined with a scarcity of land and a decreasing social acceptability of construction, represents a challenge for professionals in the sector. In reality, renovation and construction can be seen as complementary.

Solutions are being developed to meet these challenges while at the same time being part of the ecological transition. For example, the architect Anouk Legendre presented the society Hamo+, which uses wastelands as land and is part of an overall approach of sobriety, low tech and resource saving.

The speakers called for a liberation of the act of building, but also for collective awareness and massive public investment to accompany the decarbonisation of infrastructures.

## TIME TO ACCELERATE: IS FRANCE READY TO TAKE THE GLOBAL LEAD IN THE CLIMATE FIGHT?

The French Minister for Ecological Transition, Christophe Béchu (photo), asserted that a dual policy must be pursued: a policy of both mitigation and slowing down, but also of adaptation to changes that have become irreversible.

The notion of "transition" was challenged and the terms "mutation" or "transformation" were used.

During this round table, several speakers insisted on the need for awareness and global mobilisation: "France alone can do nothing, and even Europe alone can do nothing", admitted Christophe Béchu.

However, he warned against what he considered to be a new form of climate scepticism – inaction while waiting for others to act – and reminded us of the importance of taking our own responsibilities.

Youth, whose voice was carried by Emmanuelle Duez, was at the heart of the discussion: between the talent crisis, the great resignation and eco-anxiety, but also pragmatism, mobilisation and acceleration, this generation must be listened to, reassured and better understood.



Regulation and standardisation are also central: a common language must be established. And it should not stop at Europe alone.

However, standards have their limits: Sylvie Perrin underlines the risk of obsolescence in a changing world and Bertrand Badré considers that without constraint and evaluation, these standards and agreements will not be enough.

## INNOVATIVE SOLUTIONS AT THE TRANSITION FORUM

An "Innovative solutions" session was organised for each of the four themes of the TRANSITION FORUM, namely Mobility, Food, Production and Consumption and Housing.

Various start-ups and companies had the opportunity to present their projects to the Forum's qualified audience in short and dynamic formats.

Four projects – one per session – were chosen as "favourites" and highlighted on the second day during the "TV news" format.

Over the two days, fifteen innovative solutions were put forward. You can find some of these innovations in the "Solutions" section of this issue (p.18-23).

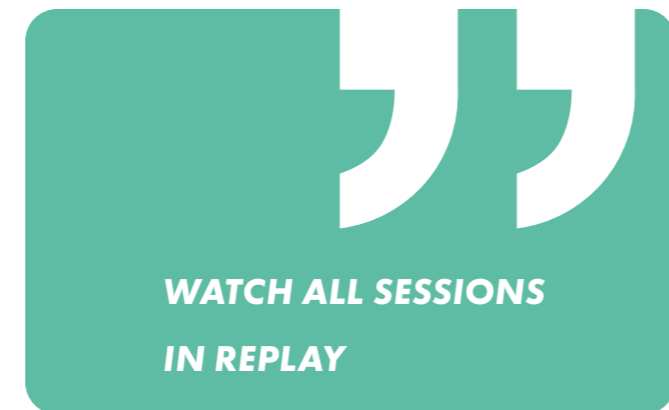
### THE MEETINGS AT TRANSITION FORUM

The TRANSITION FORUM is also a place for meetings and exchanges.

Thus, participants benefited from a networking space encouraging meetings between actors of the ecological transition.

They also had the opportunity to register on a B2B platform to schedule business meetings with other participants.

More than 45 companies took advantage of this tool and almost 90% of them were satisfied with their meetings.



## THE TRANSITION FORUM WAS ALSO:

- What innovations to accelerate the decarbonisation of mobility?
- Sustainable tourism
- Sobriety and new proximity: new uses (housing, tourism, mobility...)
- Nature, a laboratory for decarbonisation
- Financing the Climate Plan: how to lead SMEs and ETIs towards decarbonisation?
- How to better feed the planet?
- Tomorrow, everyone is a farmer: local production, organic farming, short circuits
- Endured or chosen sobriety, how to make the transition fair?
- The blue economy, an untapped lever of the sustainable economy
- What kind of energy tomorrow and at what price?
- The housing of tomorrow
- How are the uses of tomorrow in the housing sector shaping up?
- The territories at the heart of the acceleration of the ecological transition
- Territories: how to encourage more impactful innovation?
- Talents and green jobs: how to train and attract talents?

## FOCUS CEI 2022 WINNERS

Launched in January 2021 by the Transition Forum association, the Call for Expressions of Interest (CEI) "Innovating for the ecological transition of territories" aims to identify innovative ecological transition projects, resulting from private-public cooperation, and to promote them to a community of decision-makers and investors, in France and internationally.



At the end of the second edition, supported by the Banque des Territoires, Aqua Asset Management and La Tribune, six winning projects were selected by a qualified jury: Bois Bocage Energie, Boucl Energie, la DRM Polynésie française, Eco In Pack, H2OPE and Vertuo.

These projects were presented during the TRANSITION FORUM with Olivier Sichel, Deputy Director General of the Caisse des Dépôts and director of the Banque des Territoires, and Lionel Le Maux, president of the Transition Forum association, founder of the TRANSITION FORUM and president of Aqua Asset Management.

Read more about the winning projects:  
<https://www.transition-forum.org/ami>



## TRANSITION FORUM

## HERE AND NOW

Our members are actively **deploying solutions**, financing projects and rolling-out operating methods **to achieve carbon neutrality**.



### CIRCULAR ECONOMY IN THE CLOTHING INDUSTRY

PRODUCTION & CONSUMPTION

According to the ADEME report "La mode sans dessus-dessous" (2022), 100 billion items of clothing are sold each year worldwide and only 10 to 12% are resold locally. The fashion sector is estimated to emit 1.2 billion tonnes of greenhouse gases per year.

Founded in 1893, the clothing brand Petit Bateau has recently committed to the circular economy with the launch of a second-hand programme in 2021.

Thus, a collection service and a resale offer for second-hand clothes have been set up. They are managed by Petit Bateau teams, without intermediaries. Second-hand corners have been integrated into a selection of shops.

The recycling of clothes that have reached the end of their useful life is also organised: the materials

are reused and are used to produce, for example, recycled thread.

The innovation here lies in the integration of the second-hand programme into the brand's universe and the construction of a new business model. This new approach entails many changes: transformation of warehouses, training of teams, etc.

The next steps in the development of this programme include the creation of a digital resale format and, more generally, a Europe-wide roll-out.

Visit the website: [www.petit-bateau.fr/la-marque/?s=qualite](http://www.petit-bateau.fr/la-marque/?s=qualite)

PETIT BATEAU

LA SECONDE MAIN  
PAR PETIT BATEAU

CHANGER  
DEMAIN

© PETIT BATEAU



HOUSING

### UPCYCLING IN THE CONSTRUCTION INDUSTRY

CONTECO

The law of 17 August 2015 pertaining energy transition for green growth favours the transition to a circular rather than a "linear" economy. According to the Chamber of Commerce and Industry, upcycling has become one of the strong trends of the circular economy: its objective is to recover used products by giving them a new life, without loss of value.



© CONTECO

Conteco offers an innovative construction system based on recycled maritime containers. Originally intended for the maritime transport of goods, these containers meet specific ISO standards certifying the solidity of their structures and their resistance to extreme conditions and thermal shocks.

Their reuse in the construction industry limits the use of concrete and reduces construction times as well as the carbon footprint.

The "Résidence du Stade" project (in the city of Amiens) is an eco-construction consisting of five two-storey buildings. Equipped with solar panels, heat pumps and storage systems, they are positive energy buildings: they produce more electricity and heat than the flats need for every day consumption. In this way, each flat is self-sufficient in energy. The residence also includes, among other things, a workshop and a shared vegetable garden.

Visit the website: [www.conteco.fr/la-r%C3%A9sidence-du-stade](http://www.conteco.fr/la-r%C3%A9sidence-du-stade)

GRDF

© GRDF



The startup Energo has designed a demonstrator to produce synthetic methane with CO<sub>2</sub> captured directly on the Sempigny (Oise department) methanisation site. From 4 to 6 July 2022, this renewable gas was then injected into the distribution network operated by GRDF.

This was the first injection of synthetic methane in France under an experimental injection authorisation obtained by Energo. This experiment confirmed the feasibility of injecting synthetic methane into the gas distribution network. Now that the technical feasibility has been demonstrated,

### FIRST INJECTION OF SYNTHETIC METHANE INTO THE GAS DISTRIBUTION NETWORK IN FRANCE

Renewable gases represent an essential vector for the French energy system in its transition to carbon neutrality and energy independence. The industry estimates that the realistic potential for renewable gas production by 2050 is 420 TWh, higher than the gas demand scenarios, which could be between 300 TWh and 350 TWh by 2050. Of this 420 TWh, 50 TWh could be produced by methanation.

the next objective is the industrialisation of the sector. A regulatory framework as well as the implementation of support mechanisms for project developers are necessary for this purpose.

In addition to the injection, GRDF is supporting the startup by carrying out a detailed analysis of the quality of the gas produced, in order to confirm the absence of impacts on the entire gas chain and to increase knowledge of the new green gas production processes.

Read more: [www.grdf.fr/institutionnel/actualite/newsroom/liste/communiqués-presse/energo-methane-synthese](http://www.grdf.fr/institutionnel/actualite/newsroom/liste/communiqués-presse/energo-methane-synthese)



HOUSING



TRANSITION FORUM

## WHAT'S NEXT?

## THE TRANSITION INSTITUTE 1.5: A new institute dedicated to the challenges of the low-carbon transition

Last April, the French engineering school Mines Paris – PSL, launched The Transition Institute 1.5 (TTI.5) whose purpose is to provide informed scientific answers to the challenge of carbon neutrality. Here is an overview of its global philosophy, its scientific program and its prospects.

Read online: <https://the-transition-institute.minesparis.psl.eu/en/>

TTI.5 was created through a combination of factors, according to its director Mrs Nadia Maïzi. On the one hand, all the researchers at Mines Paris share the observation that the long-awaited transition is still not here.

At the same time, the latest IPCC report, of which N. Maïzi is a co-author, also leads to this urgency pointed out by the scientists (cf. "we are now in the time for action").

Solutions of all kinds are available, but there is a problem of implementation and of governance that leads to a deadlock. It is therefore clear that in order to bring together research works and the

conclusions of the IPCC report, concrete action is needed. Moreover, this position responds to the growing expectations of the youth.

### A SYSTEMIC APPROACH...

To the creators of TTI.5, the transformation will be relevant only if we take into account the whole system. The different solutions have to be studied in all their aspects: costs, performance, structure, technology, constraints, etc. All these elements are part of the nine main prisms retained<sup>(1)</sup>.

This is the challenge of the Institute, which is based on interdisciplinarity. This is also confirmed by the four main areas that structure the

scientific programme, the choice having been made to favour a breakdown by major issues and not by technology as it is often the case.

### ...SUPPORTED BY A PROGRAMME IN FOUR AXES

The axis 1, "Design and engineering of the transition", aims to explain the mechanisms to be adopted to ensure the desired decarbonisation. The axis 2, "An electric planet?", aims to question the implications of a vision associated with decarbonisation that would involve massive electrification (see box). The axis 3, "The inclusive planet", is based on the principle that, since the problem is on a global scale, it is important to create a dynamic for all the societies concerned, while taking care not to create any more inequalities than those already existing. Finally, the axis 4, "The planet as an area of influence", starts from the observation that climate has become an issue of political, economic and technological rivalry at the international scale and aims to study the extent to which all this takes us away from our decarbonisation objectives.

### A COMBINATION OF SKILLS

The Mines Paris – PSL school has created the Institute and is reinforcing it around its various departments. "We are capitalising on the existing knowledge and relying on our students", underlines Nadia Maïzi.

But she also opens it on the outside, which makes it possible

to complement other disciplines such as, for example, biodiversity. Similarly, international links are planned.

The first theses have just been launched, ten of which are financed by the Institute itself, in addition to the theses already in progress and which are in line with the Institute's scientific program.

At the same time, since the beginning of the year, the students from the Civil engineering cycle can enter the Institute's course and many of them have already signed up.

All this shows the strong interest of students in everything related to the major challenge of carbon neutrality.

This interest is also shared by the researchers who are working on their theses.

### WHAT ARE THE PROSPECTS?

"We have a decade to act. Thus, we need to ramp up very quickly, explains Nadia Maïzi. The objective is to train more or less fifteen PhD students per year and to integrate at least the two-thirds of our Engineers cycle". All of this is done by raising funds through patronage, with a specific code of ethics. Although TTI.5 has a small operational team (4 people), "we are not starting from scratch since we rely on all our students, researchers, etc. We are there to leverage everything we do internally and to irrigate our four axes to develop the visibility of our work".

The Institute is intended to become a vector for internal and external mobilisation. More broadly, it is part of Mines Paris – PSL's ambition to position itself as a decisive actor in the collective mobilisation towards a carbon neutral world.

### MAIN ISSUES OF THE SECOND AXIS "AN ELECTRIC PLANET?"

"Nowadays, explains Nadia Maïzi, the discourse strongly associates decarbonisation with massive electrification. However, we are witnessing an outburst of electric uses generating a very strong growth in electric demand. But the decarbonisation does not meet the expectations. We drew up our program long before the conflict and already had the intuition that there were a large number of obstacles and that we were not aligned beyond the composition of the electricity production mix. Because in addition to its carbon footprint issue, the sector relies on various material resources (cobalt, nickel, iron) which can be very difficult to source. What is more, the deployment of certain uses and certain sectors would require anticipating the implementation of suitable infrastructures. In short, all this raises questions about this massive electrification and we wish to contribute to the reflexion in this field."

1) Technological supply; Vectors & resources; Operation & flexibility of systems; Spatiality & pace of implementation; Lifestyles and society; Governance, regulation & institutional conditions; Externalities & environmental impacts; Costs and financing engineering; Land use planning.



# SOLUTIONS

Innovative ecological transition initiatives and projects from the "Innovative Solutions" sessions of the TRANSITION FORUM 2022 and from the CEI 2022, launched by the association

MOBILITY

## NIGHT TRAINS: A NEW WAY TO TRAVEL MORE SUSTAINABLY

According to the Ministries of Ecological Transition and of Energy Transition, the transportation sector currently accounts for 31% of CO<sub>2</sub> emissions in France. Night trains, whose service is being developed in particular since 2018, are part of the solutions for minimising its carbon footprint.

Midnight Trains, co-founded by Adrien Aumont and Romain Payet, was born out of an awareness of the need to develop a smoother, more environmentally friendly alternative to air travel.

Thus, the company is reinventing the night train to make this sustainable mode of transport more comfortable and attractive. Describing itself as a "hotel on rails", the Midnight Trains will offer private rooms and quality catering.

### MIDNIGHT TRAINS



© MIDNIGHT TRAINS

The first line will be launched in 2024 from a hub in Paris, which will lay the foundations for the deployment of new links, with the ambition of creating links between Europe's largest cities over distances of 800 to 1500 km by 2030.

Visit the website: <https://www.midnight-trains.com/>

PRESERVE &amp; PROTECT

## PROMOTING PRIVATE FORESTS

French forests are currently facing several major challenges, including supplying a sector that provides 440,000 jobs, maintaining biodiversity and adapting to climate change. Moreover, since 75% of the French forest estate is privately owned, it is very fragmented and it is often difficult for private owners to invest in maintaining and developing their estate.

Néosylva was created in 2017 based on the observation that the forestry and wood sector is a major and effective lever for creating societal value, a lever that is currently undervalued. For its founders, it is essential to invest in the renewal of forests and their adaptation to climate change, to work on a better integration of the actors in the sector and to ensure a better valuation of wood and socio-environmental services associated with the forest.



### NÉOSYLVA

© NEOSYLVA

The company has developed a long-term financing and management solution for private forests alongside their owners. In collaboration with local forestry professionals, Neosylva enhances the value of parcels of land that are at a silvicultural standstill or threatened by climate change, as well as abandoned agricultural land, in order to renew forests, develop related socio-environmental services and enhance the long-term production of wood for the wood-forestry sector.

Visit the website: <https://www.neosylva.fr/>

## ECO-RESPONSIBLE SPORTS EQUIPMENT FROM THE CIRCULAR ECONOMY

PRODUCTION &amp; CONSUMPTION

As part of the Energy Saving Plan, a "Sports" Working Group has been launched with the aim of reducing energy consumption in this sector. Waste, over-consumption and fast fashion are also at the heart of the sustainability challenges for sports activities.

Nolt, a contraction of "nothing is lost", is a Nice-based company founded by Olivier Guigonis and Paul-Emmanuel Guinard in spring 2020.

It aims to create the first eco-responsible sports equipment manufacturer based on a model 100% circular economy.

To achieve this, the company makes sports equipment from collected plastic waste, which is recycled and transformed into technical, durable and aesthetic products.

In addition, as part of the circular R-SHAPE programme, Nolt offers sports clubs the opportunity to collect, sort



© LOUISE AZINHEIRINHA

and recycle their old shirts. Clothing that can no longer be worn is turned into sports cups, which will then be sold.

In 2022, Nolt launched the promotion of Running, its first collection of responsible, circular economy sportswear. After this campaign, NOLT aims to become a global sports brand, offering clothing to all athletes.

Find the campaign: <https://fr.ulule.com/wearenolt/>

## FLOATING WAVE TIDAL TURBINES

PRODUCTION &amp; CONSUMPTION

The International Energy Agency estimates the total theoretical potential of marine energy in the world at between 20,000 and 90,000 TWh/year. Marine energies therefore appear to be key to the energy transition, particularly in view of the world's final electricity consumption, which was 22,315 TWh in 2018 according to EDF.

Created in 2019, the start-up WaveNRG is developing an innovative wave motor system and a new version of a floating wave turbine. This technology, recognised by BlueInvest, converts the energy of waves and tidal currents into electricity.

The device consists of a float propelled in a rocking motion by the waves, a column rigidly attached to the hull below the float and a turbine with a vertical axis of rotation at the lower end of this column. The rocking motion of the float and the column moves the turbine underwater.



© WAVENRG

The movements of the turbine cause it to rotate and then drive the generator through the drive shaft. The generator is located in the centre of the float, above the waterline, in a sealed compartment. For the system to work as a tidal turbine, there only needs to be a marine current to turn the turbine.

The power of the wave-only version (0.3 MW) is lower than that of the tidal version (1-2 MW per device) but the operating time over the year is higher (6 000 h VS 3 500 h).

Visit the website: <https://wavenrg.com/>





## CIRCULAR OFF-FARM PRODUCTION SYSTEMS

FOOD

At a time when the ecological transition is a real imperative, the agricultural transition appears to be a major objective for the decarbonisation of our economies. This key sector is indeed responsible for 20% of greenhouse gas emissions in France and 24% worldwide.

Nutreets, founded in 2016, presents itself as an agricultural solution for healthy, sustainable and local food.

It develops circular, soil-less plant and fish production systems inspired by aquaponics that save resources compared to conventional agricultural production methods.

Nutreets assists its clients in the design, development and marketing of turnkey farms, enabling large-scale production with low environmental impact. The startup also offers a monitoring tool that makes it easy and fun to manage the farms and collect data for follow-up.

## NUTREETS



© OEPAILLARD-MACHADO

The Nutreets farm developed in Colombes with the developer Nexity will produce fruit, vegetables and fish to supply schools, restaurants and residents of the city. It will also act as a noise and pollution barrier to protect the development from the nuisance of the nearby A86 motorway.

Visit the website: <https://nutreets.fr/>

## CARBON

© CARBON

# Carb0n



HOUSING

## A FINANCING SOLUTION FOR THE ENERGETIC RENOVATION OF BUILDINGS

Faced with the climate challenge, energy renovation is a major issue for the tertiary sector in Europe. Indeed, building consumption is responsible for 45% of electricity consumption in France and nearly 30% of GHG emissions in Europe. In France, there are 950 million m<sup>2</sup> of commercial buildings, 80% of which must be renovated to be compatible with the Paris Agreement. As a result, the financing needs are immense: €300 billion would be required in France by 2030.

Carb0n offers institutional real estate players an energy renovation financing solution to facilitate the transition of commercial real estate to carbon neutrality.

Carb0n acquires the technical equipment necessary for the energy transition of buildings and finances it via hire-purchase contracts. It manages the decarbonisation process on behalf of the owners, from ordering the equipment to financing it, including installation and management.

The immediate energy savings made as well as the valuation of the tons of CO<sub>2</sub> avoided via the voluntary compensation market allow for a sharing of the value creation: the financing of the renovation becomes painless for both the owners and the tenants. Thus, the rents are adjusted to be compensated by the energy savings.

In September 2022, the start-up raised a first round of funding of 1.4 million euros to develop its activities.

Visit the website: [https://carbon.green/fr\\_FR/](https://carbon.green/fr_FR/)



HOUSING

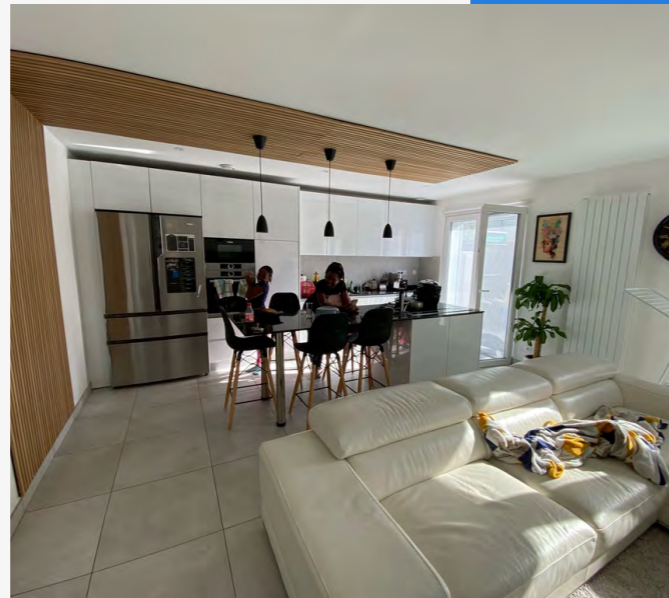
## LOW CARBON MODULAR OFF-SITE HOUSING

The National Low-Carbon Strategy (SNBC) sets out the ambition to achieve carbon neutrality by 2050. The building sector plays a key role in achieving this objective as it represents 45% of the energy consumed in France and 19% of GHG emissions (2015).

Founded by Maxime Brard, the developer-builder Woodblok offers low-carbon, modular, wood-frame off-site housing. Since 2020, it has been the only player in France to have obtained the triple label of E3C2, Bepos Effinergie 2017 and Passivhaus.

The "Domaine d'Adèle" project (Villeneuve-Saint-Georges, 2020), involving the construction of 26 individual homes, has demonstrated the technical and economic feasibility of affordable low-carbon houses. This ecological solution is also economical: a study carried out between 2020 and 2022 showed that the bills for electricity subscriptions ranged from €38 to €50 per month per household.

## WOODBLOK



© WOODBLOK

Today, the company wants to massively expand the construction of affordable low-carbon modular housing. To this end, it plans to open its first assembly plant in the Paris region in 2023.

Visit the website: [woodblok.fr/le-domaine-dadele/](http://woodblok.fr/le-domaine-dadele/)



PRODUCTION &amp; CONSUMPTION

## CUSTOM-MADE PHOTOVOLTAIC MODULES

In the current context of energy crisis and climate change, the deployment of renewable energies appears more than ever as a key issue. The recent bill on accelerating the production of renewable energy is part of this awareness.

The company Solar Cloth, founded in 2014, offers an alternative to conventional solar panels: it designs and manufactures custom-made GIGS (silicon-free) photovoltaic modules in France, known as "thin-film".

These flexible and unbreakable modules can be adapted to all shapes, sizes and surfaces.

This means they can be mounted where other solar panels are not an option, such as on textiles, vehicles, etc.

## CEI 2022 FINALISTS

## SOLAR CLOTH



© SOLAR CLOTH

In addition to this high adaptability, they have a very low carbon footprint (15g of CO<sub>2</sub> per kW/h) and a minimum lifespan of twenty years.

Solar Cloth's objective is now to move into industrial production. With this in mind, it recently raised €1 million. The inauguration is scheduled for early 2023.

Visit the website: <https://www.solar-cloth.fr/>



## THE "OCEAN APPROVED" LABEL

Of the seventeen sustainable development goals, the fourteenth, dedicated to the Ocean, is the one least taken into account by companies (14%) even though the ocean is the main regulator of the planet and the climate.

The Fondation de la Mer has created the Ocean Approved label in partnership with Bureau Veritas. This voluntary label is the first international label for companies dedicated to the preservation of the ocean. It is intended to be the operational translation of SDG 14 and is based on a holistic consideration of the company's potential direct and indirect impacts.

The Ocean Approved Label enables all companies, whatever their size, sector of activity or geographical location, to understand, measure and reduce their impacts, to set objectives, to identify the most relevant concrete actions to be implemented and to commit to a process of continuous improvement.

Awarded for a period of three years and renewable, the label covers a precisely defined perimeter (activity and



geography) for which the company chooses to apply. The assessment is based on the Ocean Reference Framework developed with the BCG and the Ministry and approved as an SDG Good Practice by the UN in May 2021. This benchmark includes three major areas: Pollution, acidification and global changes in the marine environment; Exploitation of marine and coastal resources; Cross-cutting issues for SDG 14.

Visit the website: <https://oceanapproved.org/>

## A MUTUALISED PLATFORM FOR THE METHANISATION SECTOR

The methanisation sector in France is booming: in 2021, it will account for 81% of the 1536 installations recovering renewable gases and the 945 installations producing electricity from biogas. This development requires tests on a scale representative of operational methanisation plants. However, to date, most of the work has been carried out on the scale of a few litres and extrapolated, not without uncertainty, for an operation of several thousand cubic metres

The CertiMétha project, under the impetus of Biogaz Vallée and Evergaz, aims to offer a shared research and development infrastructure to the French methanisation sector.

The platform will be used to test and validate the performance of innovative equipment and processes that will make it possible to optimise the economic model of methanisation. It will allow tests to be conducted on a pre-industrial scale, representative of a real unit.



Thus, this demonstrator and its analytical laboratory will constitute tools at the service of the sector, which will contribute to the development of private or public applied research programmes, close to the market. Moreover, as the CertiMétha model is mainly based on the rental of infrastructure and associated services, the tests carried out will not be limited by the need to produce energy, which is the main financial objective of a methanisation unit.

The platform will also offer theoretical and practical training services to teach the operation of anaerobic digestion units, to understand the biological functioning and to inform about future technological developments.

Know more: <http://www.biogazvallee.eu>

## CONGRATULATIONS TO THE OTHER CEI 2022 FINALISTS:

- **ARKEALE'S BIOCAPSULE**  
(Production & Consumption)
- **THE COOPERATIVE CARBONE**  
(Production & Consumption)
- **LIKEWATT'S DIGITAL PLATFORM**  
(Production & Consumption)
- **NXO'S NXSTEP POSITIVE ENERGY CHAIN**  
(Production & Consumption)
- **SAKOWIN'S SUSTAINABLE HYDROGEN PRODUCTION TECHNOLOGY**  
(Production & Consumption)
- **UZAJE'S OFFER TO FACILITATE THE RE-USE OF PACKAGING**  
(Production & Consumption)
- **FILIATER'S ECO-CONSTRUCTION**  
(Housing)
- **THE ECO-SOURCED MATERIALS FROM MESSIBAT INTERNATIONAL FRANCE**  
(Housing)
- **THE "PETITES FERMES D'AZUR" COOPERATIVE, LAUNCHED BY THE MOREAU-DAVERNE INSTITUTE**  
(Food)
- **NEAYI'S TRIPLE PERFORMANCE PLATFORM**  
(Food)
- **RETROFIT DEPLOYMENT BY TRANSITION ONE**  
(Mobility)

Discover more about the finalists:

<https://www.transition-forum.org/ami>



# 3 QUESTIONS TO:

## FRÉDÉRIC MARCHAND,

SENATOR FOR THE NORTH AND AUTHOR OF A REPORT ON TFP

This summer, Frédéric Marchand submitted an evaluation report on Territorial Food Projects to the French Minister of Agriculture and Food Sovereignty Marc Fesneau.



© PAULINE LE GOFF

### Frédéric Marchand

SENATOR FOR THE NORTH AND VICE-CHAIRMAN OF THE COMMITTEE ON REGIONAL PLANNING AND SUSTAINABLE DEVELOPMENT.

#### CAN YOU EXPLAIN TO US WHAT THE TERRITORIAL FOOD PROJECTS ARE?

The Territorial Food Projects (TFP) are a mechanism introduced in 2014 by the Law on the Future of Agriculture<sup>(1)</sup>.

They enable local authorities, countries, nature parks, associations and other stakeholders to take an interest in food at the territorial level.

Thus, at the outset, some projects were set up on the voluntary initiative of elected officials on the subject of collective catering (local circuits, better food for children, etc.).

Initially, things were set up in a fairly "confidential" way. At the same time, a national network of TFP was created in order to pool knowledge<sup>(2)</sup>.

It is managed, among others, by the French Chambers of Agriculture and the association "Terres en villes".

But then, the pandemic struck, and everyone discovered that there were producers next door. With the municipal elections in 2020,

numerous "sustainable food" delegations were created in local authorities.

The Recovery Plan launched in September 2020 states, among other things, the ambition to avoid delegating our food elsewhere.

We can therefore see that the TFP can be a brick in achieving food sovereignty.

#### WAS THE MECHANISM, WHICH WAS ALREADY SIX YEARS OLD, THUS BOOSTED BY FRANCE RELANCE ? HAS A NEW RECOGNITION PROCEDURE EVEN BECOME A CONDITION OF ELIGIBILITY SINCE THEN?

As part of France Relance, Julien Denormandie who was then Minister for Agriculture and Food, opened a €80 million line of investment.

These 80 million euros represented twenty times the cumulative volume of grants to TFP over the last four years.

Thanks to this, whereas the ambition in 2014 was to elaborate five TFP per region, we have been able to move to at least one TFP per department.

For example, in the North, there are ten TFP, all of which are real "solution incubators".

The €80 million have made it possible to develop engineering projects and other types of projects still on the drawing boards are just waiting to be launched (e.g.: vegetable center projects, market gardeners' projects or processing projects).

And the new two-tier recognition procedure adopted in 2021 is indeed a condition of eligibility for the plan's dedicated measure<sup>(3)</sup>.

#### IN 2021, THE PRIME MINISTER JEAN CASTEX ENTRUSTED YOU WITH THE TASK OF DRAWING UP AN INVENTORY OF THE TFP SYSTEM AND PROPOSING RECOMMENDATIONS FOR IMPROVEMENT. CAN YOU TELL US MORE?

As this is a subject that interests me, this mission was entrusted to me with Dominique Chabanet, Inspector General of Veterinary Public Health at the General Council for Food, Agriculture and Rural Areas.

In order to carry out this task, I went on a tour de France which enabled me to observe and study the TFPs already in place. All of this led us to propose ten recommendations for improving the system.

Above all, it is necessary to institutionalize TFP and to make it part of the territory (cf. territorial food contracts).

As these plans vary from one region to another (they are obviously different in Lille, Nice, Strasbourg or Lorient), one of the ideas proposed is to give to the elected representatives a "Sustainable and resilient food" competence, in compliance with the national strategy defined by the Government.

Furthermore, we consider that making the TFPs systemic, i.e. integrating all dimensions (education, health, precariousness, social justice, ecological transition...) would enable to include food in everyone's daily life.

Finally, in order to support the whole system, we believe that the Government should remain side-by-side with local authorities. This is why we offer to continue to allocate €80 million each year for at least five years.

We submitted our report at the end of July and then discussed it with the Minister Marc Fesneau. Since then, the TFPs have been integrated into the "Agriculture and Food" roadmap resulting from the government seminar of 31<sup>st</sup> August<sup>(4)</sup>.

The issue of food vouchers was also raised. On this subject, we believe it is appropriate to launch an experiment in a TFP territory.

In the end, the TFP, which is part of a perspective of re-territorialisation of our food system, has the major advantage of bringing together people who do not necessarily talk to each other.

This is a real subject that we must take up and the territories are ready. Let's not forget that intelligence is everywhere, and more than ever stemming from the territories!

#### NOTES

1) Law on the Future of Agriculture, Food and Forestry n°2014-1170 of 13 October 2014.

2) The National Network for a Territorial Food Project (in French, RnPAT) aims to "network all the actors to promote the co-construction and shared implementation of TFPs in which local authorities in charge of the territorial project are strongly involved". It promotes exchanges, highlights good practices and proposes methodological tools. More information: <https://rnpaf.fr>

3) Level 1 or level 2 recognition is a condition of eligibility for the France Relance plan measure, State/Collectivity Partnership for FTPs (amplification) – Measure 13, Part B.

4) Governmental seminar "Acting in the service of French people", August 31<sup>st</sup>, 2022, "Agriculture and Food" roadmap, workstream n°3, within 9 thematic roadmaps ([www.gouvernement.fr](http://www.gouvernement.fr)).



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.

## YOUTH FOREVER WISHES TO ESTABLISH A GENERATIONAL PACT BETWEEN COMPANIES AND YOUNG PEOPLE

Since its creation in November 2021, the Youth Forever association has been working to federate and increase the commitment of companies to young people, who have been particularly affected by the health crisis.

At the root of this initiative is The Boson Project, a consultancy firm that has been specialising for nearly ten years in transforming organisations "for and through human capital".



© MAEREGARDS

EMMANUELLE DUEZ  
FOUNDER OF YOUTH FOREVER

Among the various themes investigated is the leadership of tomorrow.

During the health crisis, its founder Emmanuelle Duez and the entire team of "bosons" quickly noted the terrible impact of this pandemic on the younger generation.

The under-25s were indeed strongly affected and even damaged by the lockdown period, which prevented them from studying, doing internships or looking for a job.

This has resulted in educational, financial and psychological distress for many of them.

New quests for meaning have emerged, as evidenced by the "big quit" movement that began in 2021 in the USA and which is gradually arriving here. Far from being anecdotal, this trend is of concern to many French companies.

But at the same time, the young generation, both very informed and pragmatic, is particularly aware that to have an impact, it is necessary to accompany the transformation of the company.

In other words, the new generation wants to rehabilitate the company as a territory of impact.

### REPAIRING THE YOUTH AND PREPARING IT FOR THE CHALLENGES OF TOMORROW

The Youth Forever association was created by Emmanuelle Duez, Jasmine Manet (the current managing director) and a dozen founding companies.

Its mission is to encourage the emergence of a new generational pact between companies and young people, the idea being to repair youth and to prepare it for the challenges of tomorrow. Because, as Emmanuelle Duez points out, "we do not have time for a lost generation".

If in the short term, the State and companies are repairing the consequences of the crisis on this generation, in the longer term, it remains essential to make the transitions that will enable the economic world to be transformed.

And to achieve this, companies need young people who are in full possession of their abilities.

#### WHAT CONCRETE ACTIONS?

Youth Forever aims to help companies not only to formalise and scale up their youth commitments but also to maintain them over the long term.

It aims to create a new political pact between youth and business based on the following threefold principle: repair, prepare, transform.

With this in mind, it proposes to partner companies to work individually and collectively on their youth commitments and on how to enable the next generation to lead the transition at the heart of the reactor. One of the key issues here is to contribute to facilitating dialogue between young people and other employees, in short to encourage intergenerational relations.

The association is also committed to sharing knowledge, empowering young people and equipping them to meet the challenge of transitions.

To date, several companies are already involved with Youth Forever, including L'Oréal, Auguste Debouzy, Crédit Agricole, Deloitte, the TotalEnergies and Harmonie Mutuelle foundations, Nexity, Roole (formerly Club Identicar), Technip Energies, Safran and SAP.

#### FIND OUT MORE:

Youth Forever published in April 2022 a white paper on intergenerational issues in the workplace ("*Jeunes cons - Vieux fous*"), which can be downloaded from the association's website:

[www.youth-forever.com](http://www.youth-forever.com)

**youth**<sup>®</sup>  
FOREVER



# WHAT'S UP?

Highly innovative projects are emerging within the Transition Forum ecosystem

## ARHYZE, A NEW MODEL IN RENEWABLE HYDROGEN PRODUCTION

At the beginning, three colleagues at a wind energy developer/operator, who saw the similarities between wind energy and hydrogen projects, decided to join forces and create a dedicated company. This is how Arhyze was born, during the first months of 2021, with the aim of developing projects for the production and distribution of renewable hydrogen from water electrolysis, mainly by sourcing it from corporate Power Purchase Agreements (PPA).

"We are talking to local authorities and companies about setting up hydrogen ecosystems, the idea is to support players in the transition", explains Mathieu Coustets, one of the co-founders. "For the time being, we are proposing reasonable-sized installations that are as close as possible to what is being used, but our vision for 2028-2030 is to move towards modular installations with greater power".

With their experience in wind power, the three partners do not want hydrogen to become a burden on the grid.

This is why Arhyze's offer also includes grid services, in particular load shedding. This helps to balance the electricity network and minimises the need to use carbon-based power plants during peak full stops.

Arhyze's approach to development is based on consultation. With local authorities, this starts with



MATHIEU COUSTETS, CO-FOUNDER OF ARHYZE

contact with the key players to see together what can be envisaged, whether it is the development of a project by the company or co-development. All this allows for a better local acceptability of the projects but also better economic spin-offs for the territory. With industry, development covers two major areas: decarbonisation of processes and vehicle fleets.

Finally, Arhyze is also working on hydrogen derivatives (e.g. ammonia) and methanation. In other words, the young company covers the entire value chain.

In the field of hydrogen, projects are spread out over the long term because they are often large units subject to environmental authorisation. But the uses do not always follow. For example, for mobility, the supply of vehicles does not currently allow for large volumes of hydrogen production, unlike in industry.

For Arhyze, hydrogen is a good solution among others and it is important to identify the right uses in the right place.

Arhyze raised its first round of funding this summer, which will enable it to accelerate its development. A development manager is due to arrive in October 2022 and will be followed by six other recruits by the end of the year. The goal is to increase the number of employees from 15 to 20 by the summer of 2023.

Today, the young company is finalising the first stages of its commitment. It is aiming for the commissioning of a first installation at the end of 2024-beginning of 2025 in urban mobility.

On the industrial side, discussions are underway and should be concluded by the end of 2022.

In addition, a leverage effect with a region and probably Bpifrance is also being studied.

Visit the website: <https://www.arhyze.com/>

## BIOTOPE AND FRANKLIN ENTER THE SUPPLY-SIDE OFFSET BUSINESS

Biotope is a design office which has been specialising in ecological engineering and nature conservation for almost thirty years. With 21 offices in France (mainland and overseas) and seven international subsidiaries, it offers several types of services, including support for land-use planning projects (from design to implementation), nature management and conservation, consultancy, training but also publishing and communication. Biotope is involved in many sectors such as transport, urban planning, industry, energy and offshore wind power.

Support for development projects is carried out in two stages. The first stage consists of assessing the impact of projects on the environment in general and biodiversity in particular. The projects can be of any type: section of motorway, high-speed train line, logistics platform, wind farm, PV power station, etc. From there, the impacts of the project are studied according to the Avoid, Reduce, Compensate sequence (ERC in French). If, after reduction, there are still residual impacts, a compensation mechanism is triggered. Until recently, it was more often a question of demand-side offsetting, i.e., on a case-by-case basis. However, Biotope is now working on supply-side compensation projects, a possibility opened up by the Biodiversity Act of August 2016, which is not very developed in France.



CYRIL VICTORIA  
DEVELOPMENT DIRECTOR OF THE ECOSYSTEM  
RESTORATION DIVISION AT BIOTOPE

"To carry out this type of projects, we need to identify available land so that we can anticipate needs", explains Cyril Victoria, Director of the Ecosystem



XAVIER MARCHAND, LAWYER AT CABINET FRANKLIN AND  
MEMBER OF THE TRANSITION FORUM ASSOCIATION

Restoration Division. In concrete terms, Biotope identifies natural sites of several hundred hectares. By rehabilitating them, it will create ecological value that it will translate into compensation units that can then be sold to developers required to compensate. Biotope is thus positioned as a biodiversity offset operator. It commits to periods of 30, 50 or even 90 years, depending on the projects, because the compensation measures must be effective for the entire duration of the damage caused. The major advantage of the operation is that it can be adapted to several different projects.

Such a project necessarily arises legal and financial issues. This is why Biotope is working with a law firm specialising in property assets and risk management. Because "even if this method of compensation by offer is provided for by law, it raises two problems", stressed Xavier Marchand, a lawyer at the Franklin firm. Firstly, the question is to know what a compensation unit is in practice: is it an essentially temporary and immaterial authorisation to pollute or a real property right that can be enforced against everyone? This implies finding suitable mechanisms. Then there is the question of guarantee needs: these operations require the mobilisation of significant capital both on the part of the person who "buys" the compensation unit and on the part of the person who finances the rehabilitation, who can guarantee the sustainability of the system throughout the duration of the operation. Insurers and bankers can be a solution but their guarantees do not exceed ten years. A more general reflection integrating the risks linked to the acceleration of climate change and all the compensation systems (carbon, artificialisation, etc.) must be carried out to organise this ecosystem.

Visit the websites: <https://www.franklin-paris.com/> and  
<https://www.biotope.fr/>



# Acknowledgements

Our sincere thanks to all the members and partners of the TRANSITION FORUM association, local authorities, firms, investors and start-up for their contributions and commitment to the community.

We would also like to thank the hundred or so project bearers of innovative solutions for the ecological transition, designed in cooperation with the territories, who applied to the call for expressions of interest in the first half of 2022.

## Editorial committee:

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

## Graphic design:

LeBDC.fr

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](mailto:contact@transition-forum.org)



**TIME FOR TRANSITION**

Transition Forum Association

6, square de l'Op era Louis Jovet 75009 Paris  
[contact@transition-forum.org](mailto:contact@transition-forum.org)