

NOV
2021

TIME FOR TRANSITION

HIGHLIGHTS - INSIGHTS - SHARING ON THE ECOLOGICAL TRANSITION

INTERVIEW

TRANSITION FORUM

HERE & NOW

WHAT'S NEXT?

SOLUTIONS

WHAT'S UP?

CALLS FOR PROJECTS

3 QUESTIONS TO

ECOLOGICAL TRANSITION: DEVELOPING NEW MODELS WITH LOCAL ECOSYSTEMS

EDITORIAL

LIONEL LE MAUX

PRESIDENT OF TRANSITION FORUM ASSOCIATION

INTERVIEW

OLIVIER SICHEL

DIRECTOR OF THE BANQUE DES TERRITOIRES

TRANSITION FORUM 2021

THE 4th EDITION WAS A SUCCESS!

HERE & NOW

UTT FOUNDATION, BIOGAZ DU PAYS DE CHATEAU-GONTIER, HYNOMED, MANAG'R, SERENYSUN ENERGIES

WHAT'S NEXT?

THE CARNOT ENERGICS ACTION

SOLUTIONS

SOL SOLIDAIRE, N.E.C.T.A.R, CYME, CHANGEO, EVOLUTION ENERGIE, HAMO+, LES POTAGEURS, SYNABIO

WHAT'S UP?

VICK DESPLAT

INVESTMENT DIRECTOR AT AQUA ASSET MANAGEMENT

CALLS FOR PROJECTS

ADEME, EUROPEAN COMMISSION, BPI FRANCE

3 QUESTIONS TO

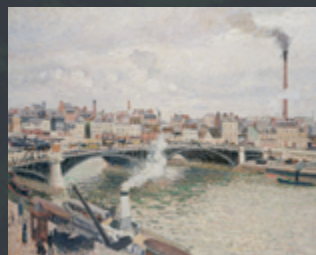
TIM GOULD

CHIEF ENERGY ECONOMIST AT INTERNATIONAL ENERGY AGENCY

TRANSITION
FORUM

ECOLOGICAL TRANSITION: DEVELOPING NEW MODELS WITH LOCAL ECOSYSTEMS.

COVER



Camille Pissarro (1830–1903)
Matin, temps gris, Rouen
Date: 1896
Medium: Oil on canvas

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TIME FOR TRANSITION

HIGHLIGHTS - INSIGHTS - SHARING ON THE ECOLOGICAL TRANSITION

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2021

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
TRANSITION FORUM 2021	8-13
HERE & NOW	14-17
WHAT'S NEXT?	18-21
SOLUTIONS	22-25
WHAT'S UP?	26
CALLS FOR PROJECTS	27
3 QUESTIONS TO	28-29

**"NO NEW MODELS
WITHOUT RISK-TAKING.
WE WILL HAVE TO
UNDERTAKE THEM,
IN COOPERATION!"**

>> JOIN THE ASSOCIATION

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

www.transition-forum.org



Join us

EDITORIAL

TIME TO CO-OPERATE!

When we launched the TRANSITION FORUM four years ago, we wanted to create a framework for high-level exchanges between public and private decision-makers in order to deploy concrete ecological transition projects more quickly and on a larger scale.

Our aim was to bring together a community of ambitious players to anticipate future developments and accelerate change, provide access to information and analyses, highlight exemplary initiatives and encourage meetings between players (public and private decision-makers, investors, entrepreneurs, academics, territories, NGOs) likely to lead to concrete, replicable actions.

As the 4th edition of the Transition Forum just ended, with nearly 1,200 participants, several ministers, dozens of local authorities, hundreds of entrepreneurs, academics and personalities from civil society, and as the exchanges have led to concrete commitments - including the launch of a partnership between our association and the Banque des Territoires - and as many high-impact projects born during the previous editions were presented (in the decarbonization of heavy mobility, in the adaptation of cities to climate change, in the circular economy), we are proud of the progress made.



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To meet the climate challenge, it is imperative to create new forms of public/private cooperation, to invent new models. The task is arduous and requires taking risks. No new models without risk-taking. We will have to undertake them, in cooperation!

As the COP 26 just ended with mixed results but ambitious objectives, I wish you a good reading of this second issue of Time for Transition and invite you to join us the association to accelerate the ecological transition.

LIONEL LE MAUX

President of Transition Forum Association and President of Aqua Asset Management

INTERVIEW



Olivier Sichel

Director of the Banque des Territoires

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OLIVIER SICHEL IS THE DIRECTOR OF THE BANQUE DES TERRITOIRES.

WE MET HIM DURING THE TRANSITION FORUM IN NICE ON OCTOBER 1ST.

SINCE 2018, THE BANQUE DES TERRITOIRES HAS REPRESENTED ONE OF THE FIVE BUSINESS LINES OF CAISSE DES DÉPÔTS. CAN YOU TELL US MORE ABOUT YOUR CONSULTING AND FINANCING ACTIVITIES FOR LOCAL COMMUNITIES?

The Banque des Territoires is indeed a structure within Caisse des Dépôts that has all the levers for the development of territories. We lend a lot of money through Livret A and Livret Développement Durable passbook savings accounts. This represents between 10 and 12 billion euros each year. We invest in new renewable energies (nearly 2 billion euros each year). And we operate in social housing: we are one of the largest social landlords with 500,000 homes.

WHAT PLACE IS GIVEN TO THE ECOLOGICAL TRANSITION WITHIN THE BANQUE DES TERRITOIRES?

It is a major one. It is a very strong development axis. Within the framework of the Climate Plan that we launched with Bpifrance for a total amount of €40 billion, Bpifrance manages €20 billion directed towards companies, technological innovation and the decarbonization of industrial processes. We deal with the ecological transition of local communities.

This concerns on the one hand housing, with thermal renovation, particularly in social housing. This year, we have financed the renovation of nearly 100,000 homes that were thermal sieves. It also concerns public buildings. I am notably thinking of schools. I was at the TRANSITION FORUM this morning

with Christian Estrosi (the mayor of Nice, in South France) and we talked about the thermal renovation of schools and all kinds of buildings. All this constitutes the building part, which counts a lot in terms of carbon emissions.

But there also is transportation. In that field, we are essentially dealing with the infrastructure part. For example, because of the growing number of electric vehicles, we will have to deploy charging stations. So we are also talking to the mayors of France about their charging infrastructure plans. Basically, where do we install the charging stations? Who is financing them? And how can all this be optimized?

Transportation also concerns the mobility equipment of local authorities, such as buses. We are discussing hydrogen buses and even refuse collection vehicles, many of which still run on diesel.

So, building and transport are our sectors of intervention. But in addition to that, we heavily invest in new and renewable energies. For example, we are currently working in Bordeaux on a large solar farm in a former landfill. This PV plant will be able to produce clean electricity for one out of seven Bordeaux inhabitants.

WHAT DOES ONE EURO PROVIDED BY THE BANQUE DES TERRITOIRES CORRESPOND TO IN THE END?

We try to have a leverage effect: it is very important. When the Banque des Territoires puts in one euro, other euros come from our banking partners and private investors. We are quite happy because we have a

leverage effect of seven. So, when we bring one euro, it is seven euros that will go into the overall investment project.

For example, in the PV power plant in Bordeaux, the Banque des Territoires will be an investor with a private partner (JP2E) that will be indebted by going to the banks (Crédit Agricole, Crédit Mutuel, Caisse d'Epargne...) that will finance it. And with one euro, we will in fact put seven euros around the table.

It is extremely important for us to have this leverage effect. And we are tending to increase and develop it because we realize that the Banque des Territoires is a fine brand that inspires confidence: it is the money of the French people that we are putting to work, the money from Livret A.

We are a public institution: we are used to being cautious but sometimes also daring. And what allows us to do this is that we are in it for the long haul. There is certainly a risk, but if we stay on projects that are going to be long term (15, 20, even 30 years), then we have a better chance of making these projects work.

HOW DO YOU MOBILIZE PRIVATE ACTORS?

This constitutes our "investment" part. In this part, we try to be at the center of the ecosystem. We have a special relationship with elected officials: they trust us, and we can have a real degree of intimacy with the mayors. For example, this morning at the TRANSITION FORUM, Christian Estrosi told us about his main directions for

Nice (tourism, greening, thermal renovation of buildings, renovation of his fleet, H2 project for the port).

We are fully aware of this wishes and when we talk to our investing partners in the private sector, we are able to tell them that the city of Nice wants to invest in tourism, hydrogen, electric buses, etc. We have the capacity to set up financing projects.

We also are a very important player for European funds. Large structures such as the European Investment Fund and the European Investment Bank do not have the opportunity to meet the Mayor of Nice every day. They trust us. We are what we call an "implementing partner".

This means that we distribute the European funds for these projects.

We agree once and for all with them, they tell us exactly what they want to finance, and we find the projects. So, we are really at the center of this ecosystem with the confidence of both elected officials (because Caisse des Dépôts has existed for over 200 years) and private partners who know that with us, they have a better chance of success.

TRANSITION FORUM 2021 hosted the signing of a partnership between the Banque des Territoires and the Transition Forum Association for the Call for expressions of interest Innovating for the ecological transition of territories 2022.

TODAY, ON OCTOBER 1ST, YOU ARE JOINING THE TRANSITION FORUM CALL FOR EXPRESSIONS OF INTEREST WHOSE OBJECTIVE IS TO HIGHLIGHT AND ACCOMPANY SOLUTIONS OF COOPERATION BETWEEN TERRITORIES AND INNOVATIVE COMPANIES. WHAT KEY MESSAGE WOULD YOU LIKE TO SEND TO PROJECT LEADERS?

We need these projects. The reality is that we do not have too much trouble working with large companies. We were at the TRANSITION FORUM this morning with Antoine Frérot from Veolia: he knows us and when we have a big job to do on an incinerator, as we are doing for example in the city of Nice, we are used to it and the teams know how to work together.

That is very good, but it is not enough. We also need innovative projects, projects that come from local communities. And what this partnership allows us to do is to source many local projects, to identify those that have the capacity to be scaled up, i.e. to be duplicated / replicated in all regions, in order to support them in terms of financing but also from a technical, legal and financial point of view. We can then say: you can set up your project like that and we are able to support you.

See you at the next TRANSITION FORUM in a year's time for an initial assessment of the projects selected.

Read online: <https://transition-forum.org/newsroom-list/interview-olivier-sichel-president-of-banque-des-territoires>



The 4th edition was a success!

Held this year on September 30 and October 1st in Nice, the TRANSITION FORUM brought together more than 1,200 international participants: innovators, investors, public and private decision-makers, entrepreneurs, leading researchers and civil society figures from all sectors.

More than 20 live-streamed sessions saw some 90 speakers discuss the challenges and opportunities for scaling up climate action and making commitments. More than 300,000 people followed the discussions online.



1,200
participants



90
speakers



300,000
online views

TRANSITION FORUM 2021 TIME TO CO-OPERATE

The 4th edition of the TRANSITION FORUM was held on September 30, 2021 and October 1st, 2021, at the Palais de la Méditerranée in Nice.

"We will have to change everything: our modes of production, our modes of financing, our modes of consumption, in order to maintain a quality of life, air and environment in general. [...] The stakes that await us are colossal. We will have to be able to invent new operating methods, modes of collaboration and financing between the public and private sectors," said Lionel Le Maux, president of Aqua Asset Management and founding president of TRANSITION FORUM, at the opening of the event.

Many innovations were presented in the four key themes of the transition: food, housing, mobility, production and consumption.



Food



Housing



Mobility



Production and consumption

Keynotes, round tables and entrepreneurial pitches followed one another during this action-oriented Forum - a sharing of opinions and solutions towards a low-carbon future.

A very clear message resounded at the conclusion of the TRANSITION FORUM for this fourth edition: it is essential to develop new co-operations in order to initiate the necessary transformations to accelerate the implementation of the ecological transition!

Read online: <https://transition-forum.org/newsroom-list/transition-forum-2021-summary>

TRANSITION FORUM 2021

A LOOK BACK ON THE SESSIONS THAT MARKED THE EVENT

THE DECADE FOR ACTION

The protection of soil and biodiversity and the decarbonization of our lifestyles, our production, consumption and travel models are the historical responsibility of our generation.

It is necessary to collectively implement rapid and unprecedented transformations.

The TRANSITION FORUM brought together scientists, academics and elected officials to share this urgent need for action.

"We are not moving fast enough, we need to implement more specific actions and accelerate this decade." Corinne Le Quéré - President of the French High Council for Climate

A NEW DEAL, A GREEN DEAL

Driving major changes requires massive investment in changing the model and involving all stakeholders.

This is the purpose of the European Green Deal. The TRANSITION FORUM brought together industrialists and public decision-makers to check in on the implementation of this major ambition.

"There is a physical risk in not fighting climate events, but there are transition risks as well. If we don't accompany the transformation of the economy well, all the capital that will have been issued in sectors destined to disappear can create financial crises." Sylvie Goulard - Deputy Governor of the Bank of France



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LARGE ORGANIZATIONS, LARGE COMPANIES, LARGE RESPONSIBILITIES

The climate challenge gives rise to new responsibilities. These new responsibilities must be drivers for action.

The larger the organizations are, the greater their responsibilities. Constraints or levers? Constraints and levers? How are private and public players integrating this new paradigm?

The TRANSITION FORUM brought together representatives of professional sectors, trade unions and elected officials to discuss these issues.

"100% of the European automotive industry will be totally transformed in 13 years. It is the largest industry in terms of employment in Europe. It is absolutely major." Pascal Canfin - Chairman of the Committee on the Environment, Public Health and Food Safety at the European Parliament

"The ecological transition is an opportunity to reshuffle the deck, to do perhaps less but better." Philippe Portier - National Secretary of the French Democratic Confederation of Labour

DECARBONIZING EVERYDAY MOBILITY

With polluting modes of transport being called into question, alternative energies being developed and new forms of mobility emerging, change is underway.

During this plenary session, the TRANSITION FORUM brought together public and private decision-makers to share their analyses and best practices and to identify ways to meet the challenge of rapidly deploying innovative, low-carbon transport solutions while taking into account the impact on individual mobility and freight transport.

"In mobility today, if we want to be supported by the State, by Europe, we must use decarbonized hydrogen." Vincent Lemaire - President of SAFRA

ORGANIC PRODUCTION, LOCAL FOOD SYSTEMS: THE CHALLENGES OF FOOD TRANSITION

From climate change to biodiversity loss to natural resource depletion, many of the sustainability issues facing our planet are directly or indirectly linked to food production.

A profound transformation of agri-food systems is needed to feed a growing world population while reducing the impact on the environment.

The TRANSITION FORUM brought together farmers, organic trade unionists, experts and innovators to share and discuss some of the best practices and innovations that can increase agricultural yields while preserving our soils, fresh water, oceans, forests and biodiversity.

"In the coming decade, we must reform our agri-food system, reform the way we consume and reform our agricultural system." Didier Perréol - President of Synabio

THE ECOLOGICAL TRANSITION, A LEVER FOR REINDUSTRIALIZATION

In order to get everyone on board with the ecological transition, we need to build convergence between its economic and social imperatives.

We need to support the development of local communities and employment by deploying new local, well-established industries that offer innovations and solutions for environmental protection.

Hydrogen mobility, batteries, 3rd and 4th generation PV, decarbonized industry: how can we create a new production model from the ecological transition?

The TRANSITION FORUM invited Bruno Le Maire to share his answers.

"To my mind, spending against global warming is not an expense but an investment for the climate." Bruno Le Maire – French Minister of the Economy, Finance and Recovery



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MITIGATION OR ADAPTATION: HOW CITIES FACE THE CHALLENGES OF TRANSITION

Urbanization combined with population growth is expected to add an additional 2.5 billion people in urban areas by 2050.

Cities and local communities will be under increasing pressure to meet the needs of their inhabitants for housing, infrastructure, energy and basic social services in a sustainable way.

The TRANSITION FORUM brought together architects, public decision-makers, industrialists and financiers to build responses to the challenges of sustainable urban development that will stimulate low-carbon economic growth for decades to come.

"I do not believe that there is any renunciation in this path that we must take towards ecological solutions. I even think that we will be able to live better and healthier." Anne Hidalgo – Mayor of Paris

CIRCULAR ECONOMY: PRODUCING AND CONSUMING WHILE PRESERVING RESOURCES

To reconcile economic growth and sustainable development, we must imperatively reduce our ecological footprint by changing the way we produce and consume goods and resources.

The entire chain, from production to distribution, must be rethought to achieve this. In particular, the imperatives of a circular economy must be integrated from the outset.

For the economic actors involved in this transition, the growing awareness of consumers is not only a marker of the urgency to act but also a tremendous opportunity.

The TRANSITION FORUM has brought together committed entrepreneurs to share their experiences and draw path towards a circular economy together.

"The driving force is not overconsumption and waste, it is the transition to recycling organic matter. By 2023, all municipalities in France must have separate collection of household waste." Frédéric Flipo – Deputy CEO of Evergaz



WATCH ALL SESSIONS
IN REPLAY



BUT ALSO:

- What dreams for 2050?
- How to co-construct the economic transition?
- Is de-innovating necessary to make the ecological transition a success?
- Ecological transition and sovereignty: the industrial revolution of the 21st century
- The green transition, a challenge for fractured societies
- Reducing the carbon footprint of digital technology
- Towards a more sustainable tourism
- Is there a European way to save the planet?
- The Ocean and transition: energy, climate and biodiversity
- Climate and health: what new requirements?

"In the end, the dream is peace. Social peace, economic peace, ecological peace, political peace." Ines Leonarduzzi - Executive Director of Digital for the Planet



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THE TRANSITION FORUM ALSO HOSTED:

The signing of a partnership between the Banque des Territoires and the Transition Forum association for the Call for expressions of interest "Innovating for the ecological transition of local communities 2022".



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Open to both companies and territories, the call will be launched next January.

The signing of the Nice Accords, which mark the commitment of the metropolis to meet ambitious objectives in terms of ecological transition.

"Come [...] sign the Nice Accords, take part in them. You will thus be watchdogs and you will have the right to sanction us if we do not keep our commitment to lower our carbon emissions by 50% by 2030 and to achieve carbon neutrality in 2050." Christian Estrosi – Mayor of Nice

The experimentation of a green hydrogen bus, Businova by Safra, to accompany our partners and stakeholders.



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HERE AND NOW

COOPERATION PROJECTS BETWEEN PUBLIC AND PRIVATE DECISION-MAKERS TO DEPLOY THE ECOLOGICAL TRANSITION IN LOCAL COMMUNITIES FROM THE TRANSITION FORUM 2021 CALL FOR EXPRESSIONS OF INTEREST

The UTT Foundation is a member of the Transition Forum Association. Six years ago, the University of Technology of Troyes embarked on a strategic plan (UTT 2030) to make its research, training and transfer activities sustainable. Now in phase 2 (2021-2025), this plan has taken an important step with the Evolution project. Its purpose is to shift the school and its uses towards a post-carbon university.

Read online: <https://transition-forum.org/newsroom-list/utt-on-its-way-to-energy-self-sufficiency>

THE UNIVERSITY OF TECHNOLOGY OF TROYES (UTT) ON ITS WAY TO ENERGY SELF-SUFFICIENCY

The main levers selected are energy efficiency of the buildings, efficiency of the services and activities hosted, functional management and optimization, changes in usage and behavior, a low-carbon energy mix, and mobility and transportation.

To achieve energy self-sufficiency, the project relies on the deployment of solutions that associate solar, wind and methanization.

An energy hub has also been created to collectively develop the most appropriate solutions to transform UTT into a positive energy school. Eventually, the entire campus will be involved. UTT has thus "become a laboratory for experimentation and a showcase for its skills.

The site will be transformed into a demonstrator to enable the replicability of the approach", explains Youcef Bouzidi, a teacher-researcher and head of the UTT's Energy Transition mission.

SEVERAL CONCRETE ACTIONS ALREADY IMPLEMENTED

UTT buildings which were so far heated with natural gas are now connected to the local authority's biomass heating network (wood - straw), which allows a 35% reduction in annual CO2 emissions. It is also worth noting that the widespread use

of LED lighting in all teaching buildings has contributed to a 65% reduction in the lighting component of overall energy consumption.

In addition to this, solar energy is particularly highlighted in the project, in three different applications. First, a solar installation that will come into service in 2022 will be able to provide energy to local residents when the facility is no longer in use, i.e. from April to October, thanks to a two-way connection. "It is the first time that the university has taken it upon itself to inject



© ALBAN DUMOUILLE



© J.P. GILSON

of the premises, it is the Aube department that will benefit. It has already announced its intention to deploy the approach throughout the campus.

CONTINUED MOMENTUM

New perspectives are opening up for this large-scale project. These include optimized management of interconnected networks and modes of production and consumption using Big Data and algorithms, and the development of tools to facilitate the integration and management of renewable energy and the flexibility of production in relation to demand.

Emphasis will also be put on the development and support of low-carbon mobility and new uses.

In the end, this project is 100% beneficial for UTT, which gains in attractiveness, controls its operating expenses and actively contributes to the environmental and energy transition all at the same time.

A dual objective: building a doctrine of sustainable engineering and adopting a strong positioning on the environmental transition

its own heat", says Youcef Bouzidi, who has put himself in the shoes of a project manager and discovered the various hazards involved. On the other hand, the parking lot will be equipped with PV shades whose production will be self-consumed.

The set-up is original: a 12-year lease will be drawn up during which UTT will buy the electricity produced, then the school will become the owner and will benefit from the installation.

Finally, solar energy will also be used in its "cold" form: an absorption refrigeration unit will produce cold from the heat produced by the installation. This will improve the comfort of users in hot weather, without using refrigerant and with insignificant electricity consumption compared to conventional air conditioning systems.

Another aspect of the project is an urban micro-methanizer that will transform the university restaurant's

waste into resources (energy, compost and clean water) and, in a longer run, that of other nearby restaurants. The equipment will be connected to a greenhouse in the garden that supplies the restaurant's kitchens.

WHAT FUNDING?

All in all, these first elements totaled €1.1 million. Europe and the Region contributed 40%, the French ecological transition agency provided 20% via the Fonds Chaleur (equiv. Heat Funds) and the Aube General Council also contributed up to 20%.

"The rest, says Youcef Bouzidi, is UTT's payroll, which we are using".

Other future projects will benefit from the French Recovery Plan, such as large-scale insulation. As the owner



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MAKING THE BEST OUT OF ORGANIC WASTE

BIOGAZ DU PAYS DE CHATEAU-GONTIER

Every year, France produces about 350 million tons of organic waste. This waste comes mainly from agriculture, industry and municipalities.

Several alternatives exist to reuse this waste and convert it into energy.



© XAVIER GRANET

Biogaz du Pays de Château-Gontier is a methanization unit located in Mayenne near Laval, whose operation is based on the collaboration between the various local actors: a private operator (Evergaz), farmers, industrialists, and local authorities.

The plant recovers 35,000 tons of waste every year. It combines four modes of energy recovery: electricity, heat, bioGNV, and soon bio-methane. The site can process a range of 1,200 different types of waste, i.e. all the types of organic waste produced in the region.

Thanks to co-generation, the methanization unit supplies the equivalent of 3,200 homes with green electricity. Nearby, Evergaz has also built a bioNGV station open to the public, which supplies green fuel to the community's vehicles.

Finally, the plant allows the spreading of natural fertilizer on the fields of 63 local farms.

Read online: <https://transition-forum.org/newsroom-list/making-the-best-out-of-organic-waste-biogaz-du-pays-de-chateau-gontier>



REINVENTING URBAN HOUSING

THE MANAG'R METHOD

Faced with the multiple sources of indoor pollution - building materials, paint or even mold - and their harmful impacts on our respiratory tracts, new construction models are being implemented.



© TRIANON RÉSIDENCES

As a result of the partnership between Trianon Résidences and the French Ecological Transition Agency, the Hoséa building in Cernay (Alsace) is a demonstrator of the MANAG'R experiment, which aims to integrate indoor air quality throughout the construction process, from the initial diagnosis to the delivery of the building.

The MANAG'R method is based on four pillars: educating all stakeholders on the importance of air quality; construction methods guided by measurements of air pollution; choice of materials and control at the time of delivery and up to 10 months later.

The application of this methodology makes it possible to compartmentalize the energy efficiency and air quality aspects by relying on technical and awareness-raising tools.

The experimentation also allows to improve ambient air quality by promoting ecomobility. Indeed, electric bicycles are made available to users to optimize their trips and reduce the use of cars.

Read online: <https://transition-forum.org/newsroom-list/reinventing-urban-housing-the-managr-method>

THE FIRST LOCAL RENEWABLE ENERGY COMMUNITY IN COLLECTIVE SELF-CONSUMPTION

SERENYSUN ENERGIES



© SERENYSUN ENERGIES

By 2030, renewable energies - which are local by nature - should represent one third of total energy consumption in France.

The decentralization of the energy model is a major challenge for the ecological transition of territories.

In 2018, SerenySun Energies initiated the first large-scale local renewable energy community in France incorporating a collective self-consumption operation.

Created in partnership with the municipality of Cabriès-Calas in the Bouches-du-Rhône region (South East of France), this pilot project should -once it is commissioned in 2021- enable the production of green energy consumed directly by local stakeholders: municipal buildings, businesses, and citizens.

To this end, four solar power plants have been deployed on public and private buildings. The benefits generated by the project are numerous and concern all local actors: a system that is closer to the places where people live and has no impact on biodiversity, greater autonomy for the community, awareness and mobilization of citizens, and commitment of partner companies.

Read online: <https://transition-forum.org/newsroom-list/the-1st-local-renewable-energy-community-in-collective-self-consumption-sereny-sun-energies>



THE LAUNCH OF HYNOMED



© ECHOSUD

GREEN HYDROGEN FOR SUSTAINABLE MOBILITY

Green hydrogen is a major lever for a decarbonized French recovery.

According to the government, the industry could generate more than 100,000 jobs by 2030. To this end, the government has invested 7 billion euros, of which 2 billion should be mobilized before 2022.

Financed by Engie Solutions, the Banque des Territoires and the Var Chamber of Commerce and Industry, Hynomed, a green hydrogen production and distribution company, aims to deploy a hydrogen ecosystem for land and sea mobility in the French Provence-Alpes-Côte d'Azur region.

Its first station should be commissioned in 2022 at the Breguillon port site, near Toulon. It will supply 7 to 10 buses, 50 light commercial vehicles and a maritime shuttle. By placing hydrogen at the heart of the port's energy mix,

the system will prevent the emission of approximately 1,675 tons of CO2 per year.

The company is the first project of the Hynovar program to enter its operational phase. Originally intended to stimulate hydrogen initiatives in the Var region, this project has gone beyond its borders and is now a reference for many actors in the Southern Region of France.

Read online: <https://transition-forum.org/newsroom-list/green-hydrogen-for-sustainable-mobility-the-launch-of-hynomed>



TRANSITION FORUM

WHAT'S NEXT?

GREAT OUTCOME FOR THE CARNOT ENERGETICS ACTION

ELISABETH BROCHIER IS IN CHARGE OF STRUCTURING ENERGY PROJECTS WITHIN THE RESEARCH, INNOVATION, VALORIZATION AND EUROPE (DRIVE) DEPARTMENT OF GRENOBLE INP.



The Transition Forum association and the Carnot Institutes have formed a partnership to showcase the best of research for the ecological transition.



ELISABETH BROCHIER

www.instituts-carnot.eu

The Carnot network comprises public research structures committed to developing research partnerships that promote innovation in businesses of all sizes – from SMEs to large corporations – and among socio-economic stakeholders. Carnot's 35 000 research professionals account for 20% of all French public sector researchers and handle 55% of all R&D contracts outsourced by private companies to French public research bodies.

The Carnot EnergiCs action aimed at supporting the competitiveness of firms in the energy sector closed in September 2021. Elisabeth Brochier, who was in charge of the operational management within the Institut Carnot Energies du futur, tells us about the results of the action and the possible follow-up.

THE ENERGIcs ACTION: A ONE-STOP SHOP FOR PARTNERSHIP RESEARCH

The EnergiCs action was launched in 2015 by the five main players in public research in the fields of energy: three Carnot Institutes (Energies du futur, M.I.N.E.S and ICEEL), BRGM and CSTB.

The main idea was to facilitate companies' access to the skills of the laboratories and technological platforms of each of these organizations to enable them to increase the maturity of their technologies at all levels (research project, development of demonstrator or technology transfer).

Five main themes have been selected: renewable energy sources, energy conversion and flow infrastructures, high energy efficiency uses, smart grids and cross-cutting technologies.

Aimed at the network, industry, construction, transport and service sectors, EnergiCs was designed to be a single entry point for VSEs, SMEs and SMIs faced with the need to innovate and increase their competitiveness.

WHAT IS YOUR ASSESSMENT OF THE ENERGIcs ACTION?

Our assessment is positive. With the involvement of five major players in energy research, the entire energy chain was covered in terms of skills.

In 2015, the members of the consortium were already having significant experience of partnerships with very small businesses and SMEs.

Their contractual revenues amounted to €24 million with a customer portfolio of more than 270 companies.

It is therefore towards these companies - outside the historical perimeter of the consortium and far from the world of research - that the EnergiCs action has deployed its commercial action plan.

This approach has had an extremely visible impact on VSEs/SMEs, whose share of contractual revenues with the consortium has risen from 30% at the beginning of the project to 60% at the end.

The partnership situation with the ETIs proved to be more difficult and led us to develop specific actions to intensify the support of these ETIs.

We sought to better understand this type of company by analyzing their research work, their way of outsourcing R&D and their partnership practices.

As a result, we have developed a database of more than 300 perfectly qualified ETIs that we can use to promote the industry through targeted marketing and sales initiatives (partnerships with laboratories, key themes in the French Recovery Plan, emerging markets).

WHEN YOU SAY THAT THE ENTIRE ENERGY CHAIN WAS COVERED, THAT'S AN EXTREMELY BROAD SCOPE...

Yes, it's a very broad scope. That's why we launched a marketing initiative to characterize the 17 thematic segments within our scope in terms of market dynamics, industrial needs, research and innovation, etc.



We have thus confirmed the large diversity of these segments in terms of structuring and company expectations. For example, regarding solar energy, we notice a prevalence of large companies, which, besides, are perfectly familiar with the Carnot offer.

This approach led us to select five relevant segments to study for EnergiCs: smart electrical networks, high energy efficiency buildings, energy efficiency in industry, biomass energy and geothermal energy.

These are all segments where Carnot has a real potential for support but lacks visibility among companies.

We then refined the approach to identify three priority markets to be addressed collectively: microgrids and collective self-consumption, E+C- buildings and districts, and green gas production.

These markets are the result of deep changes in energy use and are still emerging.

Nevertheless, they already show a strong economic potential and above all a significant presence of VSE / SME and ETI-type companies.

We have therefore developed cross-functional projects in these markets to strengthen our platform offering and, above all, to structure joint offerings at the consortium level.

Our objective was to involve innovation-oriented companies in R&D and to support them in technological developments with high TRL.

HOW DOES THIS TRANSLATE, ROUGHLY SPEAKING, INTO THE THREE SPECIFIC MARKETS YOU HAVE IDENTIFIED?

For each of the three markets, we have crossed the needs of companies with the technological solutions developed within the EnergiCs consortium.

Whether for self-consumption, E+C- buildings and districts, or green gas production, work has begun on building an offer that fits with the expectations of companies.

Regarding self-consumption, we have identified the research topics to be prioritized by the consortium and the key players to be mobilized in conjunction with the energy communities.

This work has led us to support one of the largest collective self-consumption demonstrators in Grenoble's economic activity zone.



Regarding E+C- buildings and districts, we have sought to federate the semi-virtual laboratories developed by EnergiCs members to create a common bench for evaluating innovative energy systems for buildings.

As for green gas, we are strengthening an existing offer by comparing two gasification technologies on the technical, environmental and economic aspects to better assist manufacturers in their choice of storage and green gas production solutions.

These cross-disciplinary projects have a time frame that goes beyond the scope of EnergiCs' activities.

WHAT OTHER ACTIONS ARE CARRIED OUT WITHIN THE FRAMEWORK OF ENERIGCS?

We have strengthened the visibility of the consortium through privileged partnerships.

This is the case with the partnership with Pexe for the organization of the annual "Research-Industry" Ecotech Energie meeting, as well as the partnership

with the New Energy Systems Strategic Committee through the management of its transverse research group.

These partnerships are part of the EnergiCs strategy to attract a pool of qualified companies focused on innovation.

For example, the directory of new energy systems, which references both innovative companies and public research laboratories, reinforces the visibility of Carnot while constituting a commercial base of interest for the whole players.

MORE BROADLY, AS A SPECIALIST IN ENERGY FIELDS, WHAT IS YOUR VISION OF THE FUTURE EVOLUTION OF THE SECTOR?

We are all aware of the stakes and the urgency to act for the planet.

The choices we are making today towards cleaner and more intelligent energy systems are essential to meet the challenges of the energy transition. They

also determine tomorrow's competitiveness gains for companies.

There is therefore a huge potential in what will result from the decarbonization of the economy, both through energy savings and through in-depth changes in energy use. Decarbonized hydrogen is one of these and is now a priority area of investment for France to achieve carbon neutrality by 2050.

Energy networks feature another major transformation of our economy and society, with increasing decentralized production, new uses and major changes in people's lifestyles.

Future networks will be more flexible and smarter, and consumers will be able to play an active role, particularly in the operation of the electrical system.

The other challenge in the race for energy transition is the collection and control of energy data, which are tomorrow's resources.

A project to set up an energy transition observatory is currently being considered in Grenoble to develop a platform of data resources aimed at studying individual behavior and collective practices in terms of energy consumption and use.

A better understanding of consumption in order to modify behavior is now possible thanks to artificial intelligence, and this is the challenge of processing and collecting energy data.

Read online: <https://transition-forum.org/newsroom-list/great-outcome-for-the-energics-action>

TRANSITION FORUM

SOLUTIONS

Innovative initiatives to adopt decarbonized lifestyles from the Transition Forum 2021
Call for expressions of interest



REDUCING ENERGY POVERTY THROUGH SOLAR ENERGY

HOUSING

According to the French National Observatory of Energy Poverty, 3.5 million households have difficulty paying their electricity bill in France. Founded by a group of public and private organizations, Sol Solidaire aims to combine social and environmental progress by enabling beneficiaries of social housing to reduce their energy bills, thanks to the financing of solar panels.

To achieve this, the association proposes a direct impact donation: a 500 € donation can equip a household with two children with solar panels. Twice a year, Sol Solidaire also opens a call for projects to social housing actors, with the aim of developing short-term collective self-consumption photovoltaic installation projects.

SOL SOLIDAIRE'S CHALLENGE



© SOL SOLIDAIRE

Applicants must commit to supplying solar electrons to their tenants free of charge.

Read online: <https://transition-forum.org/newsroom-list/reduire-la-precarite-energetique-grace-a-lenergie-solaire-le-pari-de-sol-solidaire>



CULTURE OF THE EARTH AND CULTURE OF THE MIND

FOOD

According to a 2020 survey conducted by the French the Ministry of Ecological Transition, only 37% of the French go to nature every day and 9% rarely ever go there.

In order to reconnect humans with their environment, the Yuna Crew Association has set up educational and cultural tools anchored in a natural setting. With the N.E.C.T.A.R project - Nature, Education, Culture, Transmission, Art and Reasoned - born from the partnership with the city of Gattières near Nice, it provides a resource space to citizens. Family gardens, educational farm, permaculture learning, zero waste awareness, photovoltaic farm or

THE N.E.C.T.A.R PROJECT



© YUNA CREW

recycling of green waste: this living space presents many ways to convey responsible practices.

Read online: <https://transition-forum.org/newsroom-list/culture-of-the-earth-and-culture-of-the-mind-the-nectar-project>



PRESERVE

ENCOURAGING CITIZEN MOBILIZATION FOR TERRITORIAL RESILIENCE

According to a study by the Recherches & Solidarités network of experts, 54% of associations are asking for better support in diversifying and finding funding in the face of declining public subsidies and donations from individuals.

CHANGEO is a system for collecting donations and mobilizing citizens through interactive terminals made of reused materials. Its goal is to allow the greatest number of individuals to become directly involved in causes that have an impact on the resilience of their environment.

The system acts as a catalyst by fostering the capacity for action of the whole actors in the territory. It capitalizes on successful experiences and highlights them in order to inspire new local projects, helps municipalities support them, involves the economic ecosystem, and engages citizens to co-finance and participate.

THE CHANGEO INTERACTIVE TERMINALS



© DROPNGO

The projects are sourced, structured and managed from beginning to end with the help of referent associations, most of which come from the French Ecological Transition Agency "Boost éco-citoyen" initiative.

Read online: <https://transition-forum.org/newsroom-list/encouraging-citizen-mobilization-for-territorial-resilience-the-changeo-interactive-terminals>



HOUSING

DECARBONIZING THE BUILDING SECTOR

The building sector is the second largest emitter of greenhouse gases in France. The emissions produced during construction and renovation alone add up to 30 million tons of CO2 each year, which represents 7% of national emissions.

Cyme minimizes its environmental impact during the construction process and throughout the lifetime of its products.

The company supports the ecological transition of territories by building ever-evolving living spaces - housing, shops, shared spaces, micro-care centers or training places - from locally manufactured recyclable wood-frame modules.

These modules do not require heavy foundations and thus preserve the soil on which they are built. They are movable and can therefore have several uses. Thanks to

MODULAR CONSTRUCTION BY CYME



© CYME

the prefabrication and by being part of a reasoned craft, this construction method reduces transport and waste while improving energy performance.

Read online: <https://transition-forum.org/newsroom-list/decarbonizing-the-construction-sector-modular-construction-by-cyme>



OPTIMIZING ENERGY MANAGEMENT

PRESERVE

Electricity production represents one third of the CO2 emissions linked to human activity in the world, according to the last issue of "Chiffres clés du climat France, Europe et Monde 2021", published by the French Ministry of Ecological Transition.

The Laboratoire de Météorologie Dynamique, the CESI higher education and research group and five start-ups - Evolution Energie, DotVision, Clem', Lucéor and Elum Energy - have joined forces to test a unique energy management system on three electrical microgrids. The objective is to ensure real-time optimization of multiple equipments (photovoltaic panels, batteries, electric vehicles, meters, telecom flows...), under different uses.

Microgrids are local electrical networks, as opposed to conventional networks. They ensure the distribution of local energy resources as close as possible to the needs

EVOLUTION ENERGIE



©EVOLUTION-ENERGIE

of the population, thus favouring short circuits and low-carbon energy.

These networks will be installed on three smart campuses in the Paris area: the Sénart eco-premises, the CESI Smart Building in Nanterre and the Drahi X-Novation Center at the Polytechnique School.

Read online: <https://transition-forum.org/newsroom-list/optimizing-energy-management-evolution-energie>



REHABILITATING BROWNFIELDS

HOUSING

The Cartofriches national inventory estimates the total surface area occupied by industrial wastelands in France at 90,000 to 150,000 hectares (2020). Located in city centers, these abandoned sites appear today as one of the major solutions to urban sprawl.

The Hamo+ project is based on two key principles: the rehabilitation of industrial wastelands, and the creation of ecological districts with smart grid (smart electricity distribution network). These collective and always-evolving living spaces are part of an eco-responsible and socially inclusive approach, which is essential to build a sustainable city.

The first objective of Hamo+ is to produce local and renewable energy with the installation of solar panels on roofs and a photovoltaic farm on degraded land.

The project also acts on the building sector by reducing energy consumption through dense housing, energy performance and the use of ecological materials.

HAMO+ SMART GRID ECO-DISTRICTS



© EVERWAT

Mobility is also considered by thinking differently about the car, thanks to the implementation of shared mobility solutions, and by guaranteeing excellent accessibility for public transport.

Finally, the creation of eco-districts also integrates waste issues: it helps reducing waste by setting up collective composting areas and by raising the awareness of residents. Together, these actions allow for the economic revitalization of the area.

Read online: <https://transition-forum.org/newsroom-list/rehabilitating-brownfields-hamo-smart-grid-eco-districts>



DEVELOPING A HEALTHY URBAN AGRICULTURE

FOOD

According to the United Nations Food and Agriculture Organization, up to 180 million tons of food could be produced each year through urban agriculture. As this practice grows, concerns are being raised about the presence of urban pollutants that could have harmful health consequences.

In partnership with the Institute of Chemistry of the University of Nice, Les Potageurs is conducting a study on the impact of PAHs (combustion pollutants) on vegetables growing in urban areas. The objective is to develop a methodology for planting and cultivation adapted to the problems of the city that could be disseminated to all cities. To this end, four vegetable gardens have been created in the Alpes-Maritimes area (South East of France). Two twin vegetable gardens with a wide range of plants were installed in the heart of Nice, on the roof of an Atmosud measuring station equipped for PAHs. Two

LES POTAGEURS' STUDY



© LES POTAGEURS

other similar gardens were installed in Coursegoules in the hinterland, which has interesting characteristics from an air quality perspective.

Read online: <https://transition-forum.org/newsroom-list/developing-healthy-urban-agriculture-les-potageurs-study>



MAKING COMPANIES PROGRESS REGARDING BIODIVERSITY

PRODUCTION & CONSUMPTION

According to the Living Planet Index calculated by the Zoological Society of London and quoted by WWF in the "Living Planet Report 2020", the average size of wild vertebrate populations declined by 68% between 1970 and 2016: in less than half a century, the number of about 20,000 species have fallen by two-thirds due to environmental destruction.

The biodiversity issue is still poorly taken into account by companies. However, these can have a real impact by changing their practices. It is therefore urgent that they take up this issue.

Faced with the lack of information and framework for companies wishing to commit, the French Union Syndicat Entreprises BIO Agroalimentaires (Synabio) has published some twenty indicators aimed at improving the sector's biodiversity practices, beyond the European regulation.

SYNABIO INDICATORS



© SYNABIO

These indicators are the result of a year of collaborative work with a dozen organic companies such as Biocoop and Léa Nature.

Read online: <https://transition-forum.org/newsroom-list/making-companies-progress-regarding-biodiversity-synabio-indicators>

TRANSITION FORUM

WHAT'S UP?

Meeting with the members of the Transition Forum association



VICK DESPLAT, AQUA ASSET MANAGEMENT

TRANSITION FORUM: CAN YOU INTRODUCE YOUR ACTIVITIES?

I am an investment director for Aqua Asset Management whose mission is to manage investment funds dedicated to financing the ecological transition as well as transition-oriented SMEs.

AQUA ASSET MANAGEMENT HAS ANNOUNCED THAT IT WILL SOON BE LAUNCHING A FUND ON HYDROGEN MOBILITY. CAN YOU TELL US MORE ABOUT IT?

The fund we are launching is called Transition Hydrogène. It's both a thematic and ecosystemic fund. Thematic because it deals with all issues related to hydrogen and the financing of the hydrogen industry as a whole. Ecosystemic because it aims to finance both the upstream and downstream parts of this value chain: both the uses of hydrogen and the production (by electrolysis) and distribution infrastructures of the hydrogen molecule. The fund's architecture is built for the long term and aims to support companies and projects over long periods, unlike other funds which have rather limited exit horizons.

THERE IS STILL WORK TO BE DONE TO ENSURE THAT THIS PRODUCTION IS SUSTAINABLE... IT IS A BIG CHALLENGE! WHAT WILL BE THE FIRST INVESTMENTS?

One of the first investments will be a French company, Safra, based in Albi in Occitania, which designs and assembles hydrogen electric buses. Our collaboration was born at the TRANSITION FORUM two years ago. Safra is a great entrepreneurial adventure: the company is rapidly growing with 400 new jobs to be created over the next two years.

This investment corresponds to the "uses" part, since this fund, through its infratech strategy, aims to invest in both infrastructure and technology, or in other words, the uses of infrastructure. There will be other investments of this kind with other uses. We are notably thinking of heavy logistics mobility. Another investment that is in the pipeline, which we have been working on for several months, is an investment in a hydrogen production and distribution project in the Nice metropolitan area. This project will be used to power vehicles, particularly buses. We hope that Safra buses will be among these uses.

THE STAKES ARE HIGH... HOW WILL THE FUND FIT INTO AQUA ASSET MANAGEMENT'S OVERALL STRATEGY?

This fund is a perfect example of the strategy we are implementing at the level of the company. Through its infratech approach, it aims to address issues that are both diffuse and technical. Diffuse because although many people want to finance this type of project, the fact is that these infrastructures do not actually exist. Therefore, we also need to support the development of these assets.

In addition to financing, we accompany developers to help them bring these projects to life. Unlike other technologies, these types of projects are relatively complex. They are large-scale projects, on an industrial scale, with a lot of operationality. This is exactly the kind of project we like to support and finance here at Aqua Asset Management.

Read online: <https://transition-forum.org/newsroom-list/whats-up-interview-with-vick-desplat>

TRANSITION FORUM

CALLS FOR PROJECTS**ADEME****CALL FOR PROPOSALS**
Resilience of local communities

The aim of this Call for proposals is to bring together all willing public and private actors to produce open resources - the commons - and thus to improve the resilience of local communities in a logic of adaptation to climate change by creating and sharing these commons.

>> Learn more

DEADLINE 12/12/2021

GRANT
Grant for the ecological transition of SMEs

For projects concerning climate studies, eco-design, the circular economy and waste management or renewable heat and cooling for industrial buildings: the Grant for the ecological transition of SMEs provides access to flat-rate aid in all areas of the ecological transition.

>> Learn more

DEADLINE 12/31/2021

EUROPEAN COMMISSION**GRANT**
LIFE Clean Energy Transition

Proposals should address the set-up of innovative financing schemes leveraging private finance for sustainable energy investments, with a dedicated focus on energy efficiency.

>> Learn more

DEADLINE 01/12/2022

BPI FRANCE**CALL FOR PROJECTS**
i-Demo

The objective of the "i-Demo" action of the Future Investment Program is to develop industrial and service companies in growth markets that create value and competitiveness for our economy and contribute to the energy, ecological and digital transitions.

>> Learn more

DEADLINE 05/03/2022

3 QUESTIONS TO:

TIM GOULD, CHIEF ENERGY ECONOMIST AT INTERNATIONAL ENERGY AGENCY

TRANSITION FORUM: YOU RECENTLY PUBLISHED THE IEA'S ROADMAP TO NET ZERO BY 2050. COULD YOU REMIND US ITS MAIN POINTS, ESPECIALLY IN TERMS OF INVESTMENT AND INNOVATION OPPORTUNITIES? AND HOW DOES IT REFLECT THE EVOLUTION OF YOUR INSTITUTION?

While many governments and companies have pledged to reach net zero emissions by mid-century or soon after, the changes required to reach those goals are poorly understood.

That is the reason we came up with our landmark Roadmap to Net Zero by 2050: to show governments, industry, investors and citizens what would need to happen across the global energy sector – and what the implications would be more broadly. The main takeaway from the Net Zero Roadmap is that there is a pathway to put the world on a sustainable energy and climate footing in line with limiting the global temperature rise to 1.5 degrees – but it is a narrow pathway and requires immediate and ambitious actions worldwide.

It will require a complete transformation of our energy systems, with massive

electrification of sectors such as transport and industry, and with almost all of that power being generated through renewables and other low-carbon sources.

Most of the reductions in emissions between now and 2030 come from technologies readily available today.

But by 2050, almost half the reductions come from technologies that are currently



TIME FOR TRANSITION WRITTEN INTERVIEW WITH IEA CHIEF ENERGY ECONOMIST TIM GOULD

under development, especially in fields such as energy storage, hydrogen and carbon capture. This demands that governments quickly increase and reprioritise their spending on research and development. The Roadmap assumes that total energy investment must rise to USD 5 trillion a year by 2030 from just under USD 2 trillion now.

Ever since its founding in 1974 to confront severe disruptions in world oil markets, the IEA's mission has evolved along with the challenges facing its members.

Over the years, the IEA has widened its scope to cover all forms of energy, welcomed major emerging economies into the IEA family, and increasingly focused on the need to transform our energy systems to reduce greenhouse gas emissions and avoid the worst effects of climate change.

The IEA is determined to lead the global clean energy transitions, and make sure we can address the challenge of climate change with sustainable, resilient and secure energy systems. The Net Zero Roadmap clearly shows that.

WHAT IMPACT DO YOU EXPECT THIS ROADMAP WILL HAVE ON ACTORS, POLICY MAKERS AND MANUFACTURERS?

Achieving a net zero energy system by 2050 is a race against time, a race that no one wins unless everyone gets over the line. And it will have implications – and opportunities – for everyone.

We have already seen a lot of different actors in the energy sector and beyond – policy makers, companies, investors, NGOs and more – responding to the findings and recommendations of our Roadmap, and we have been very encouraged on the whole. In particular, we have seen a great deal of interest from different countries in working together with us on their own national roadmaps to net zero by 2050.

The Roadmap was designed to inform the conversation around the actions needed to achieve energy and climate goals ahead of the COP26 Climate Change Conference in Glasgow in November. I think it has clearly helped focus that conversation.

And the IEA is continuing to work to support the UK government's COP26 Presidency with the aim of making the outcome as successful as possible.

THE TRANSITION FORUM BRINGS TOGETHER AN INTERNATIONAL COMMUNITY OF KEY PLAYERS FROM DIFFERENT SECTORS AND INDUSTRIES COMMITTED TO A REAL LOW-CARBON FUTURE. WHAT MAIN MESSAGE YOU WOULD LIKE TO CONVEY TO THEM?

To reach our climate goals, we have to go from a fossil-fuel dominated energy world today to one dominated by clean energy in 2050.

It is worrying to see that emissions in 2021 are already rebounding to pre-pandemic levels, and are projected to continue to increase.

But there are positive signals that we can make the shifts needed to reach net zero: record renewable capacity expansion, EV sales continuing to increase, and political commitments to achieving net zero emissions – unimaginable a few years ago in many places. The major milestones for a net zero energy system by 2050 underscore the scale and speed of change that we need.

Today's positive technology and policy signals indicate that reaching these ambitious goals is difficult, but possible. We have three major tasks ahead of us.

First, in the next ten years, we have to make the most of the clean energy technology options that are already available.

Second, we have to push the button of innovation because there are technologies which are under development today that are critical to decarbonize our energy system.

Third, we have to reduce fossil fuel use worldwide. Policymakers must send an "unmistakable signal" to businesses that investments in clean-energy technologies – not fossil fuels – will be the winners.

And let's not forget that different countries are coming at this challenge from very different places.

Many emerging and developing economies are still expanding their energy systems to provide modern energy services to more of their citizens – services we tend to take for granted in advanced economies.

Emerging and developing economies also face greater difficulties in securing the investments they need for clean energy projects.

These are critical issues that need to be taken into account as governments work together to build a clean energy future.

Finally, tackling emissions from existing infrastructure will be critical. It is important to build new infrastructure that is as sustainable and efficient as possible, but we also need to focus on the emissions that are "locked in" to existing systems.

That means addressing emissions from existing power plants, factories, ships and other capital-intensive infrastructure already in use.

Read online: <https://transition-forum.org/newsroom-list/3-question-to-iea-chief-energy-economist-tim-gould>

Acknowledgments

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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



TIME FOR TRANSITION

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