



The Egis Sustainable
Development Steering
Committee

*Summary of subjects addressed
2010–2018*

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Nb : some collaborators are not any more member of staff Egis. It modifies not at all the interest of their words

The Egis Sustainable Development Steering Committee

Description, missions and operation

A forum for societal and strategic dialogue

The Egis Sustainable Development Steering Committee was set up in 2010. Chaired by Egis' Senior Management, the Committee brings together several key people from within the organisation and some twenty personalities with a diversity of backgrounds from outside (Egis' stakeholder representatives and sustainable development experts – see list, below). The purpose of the Committee is to nourish and enrich Egis' sustainable development (SD) strategy.

In bringing together differing views of internal and external actors on sustainable development issues that relate directly to the Group's activities (climate change, biodiversity, sustainable cities, mobility and transport, governance, cooperation) the exercise fosters innovation and the development of more responsible engineering practices.

Missions of the Sustainable Development Steering Committee

The Committee has a dual mission, to:

- debate major issues, implementation methods, and outlooks on sustainable development and sustainable regional planning both in France and internationally;
- provide constructive criticism of the solutions and responses proposed by Egis, and to discuss the dilemmas encountered in operational projects.

Fulfilling this collective task will enable refinement of the Group's sustainable development policy and piloting of its actions in the area. The Steering Committee members were accordingly involved in drafting Egis' Sustainable Development Charter. Their analyses also contribute to the Group's forward thinking. During the meetings organised so far, the Egis Group has been able to discuss with Committee members new solutions and tools supporting responsible engineering, societal acceptability of the Group's assignments, and practices for consultation at the sub-national territorial level.

Two Sustainable Development Steering Committee meetings a year

The Sustainable Development Steering Committee meets twice a year, in Paris. Each meeting lasts three hours. Participants are provided with an update on the Group's CSR and take part in two main discussions. These focus on innovation and are accompanied by a detailed presentation of one of the Group's proposals or achievements, given by those responsible for the project. The expertise deployed and techniques used are explained, analysed and challenged by Committee members.

A summary of these confidential discussions is then circulated to all of the members and to the Group's Sustainable Development managers to contribute to the managers' thinking and stimulate the development of their operational skills in the area of sustainable development.

Kick-off meeting – Wednesday 26 May 2010

The Sustainable Development Steering Committee Kick-off Meeting was, primarily, an opportunity to establish contact between the 17 external experts and the dozen in-house key people from the Group present on the occasion. All of the participants stressed the advantages of the proposed dialogue in aiding the Group to better respond to the challenges of sustainable development.

After a summary presentation of the Egis Group and a roundup of its current situation, Mr Nicolas Jachiet, the CEO, recalled that, each year, the Group planned and controlled investments for around €10 billion in works, a very significant mechanism for promoting sustainable development at the sub-national territorial level. Before launching a roundtable, he pointed out that the creation of the Sustainable Development Steering Committee had two principal objectives: the desire to discuss trends and remarkable initiatives observed in sustainable territorial development, and the wish to obtain constructive criticism of the solutions proposed by Egis' teams.

Egis innovations in the area of sustainable mobility

The first Sustainable Development Steering Committee discussion session was given over to a presentation of the investments made by the Group in the area of sustainable mobility: dynamic traffic management tools, minimum inconvenience work sites, new mobility services, etc.

The open debate between external and internal members that followed the presentation focused on the tools enabling integrated modelling of sub-national territories, action-research processes, the question of user involvement and the implementation of truly multi-modal mobility.

Tendem Empreinte®: a participatory approach for optimisation of sustainable development projects

The Tendem Empreinte® method, created by Egis, is intended to enable participatory design of the aims, indicators and, above all, actions that will reinforce the sustainable nature of a project. The tool provides a graphic display of the multi-disciplinary benefits and impacts of choices to support a project's programming, design, implementation and operation. Egis has already employed this approach in around thirty projects.

The method elicited numerous comments from the Committee members, whether expressing interest in the tool itself, notably regarding relations with clients and their representatives, or in the principle of managing projects from the performance angle. Some points for attention and reservations were also formulated by the participating experts. In conclusion to this second session, Egis managers presented a panorama of the Group's sustainable development solutions, so as to complete external members' knowledge.

Lastly, in conclusion to the Kick-off Meeting, each Committee member provided feedback on the subjects that they felt should be addressed in future meetings.

Key points of the Meeting of 26 November 2010

The second meeting of the Sustainable Development Steering Committee focussed on two topics: the evolving urban environment and biodiversity.

The evolving urban environment: making cities a sustainable and desirable environment

Although new “eco-neighbourhoods” are a highly publicised theme where the sustainable city is concerned, it was pointed out to the meeting that most of what will constitute the city of 2050 is already built. The challenge therefore relates essentially to the problem of renovation, as underscored by the results of a study conducted by Egis of around 300 elected representatives in conglomerations with populations of more than 50,000.

Amongst the challenges to urban renovation, rehabilitation of housing estates comprises specific issues in terms of energy performance, urban sprawl, mixed uses and intergenerational mix. In response to these issues, Egis has developed an eco-rehabilitation solution for residential areas. This new offering stimulated numerous exchanges of views between Committee members, notably concerning the associated consultation or financing of schemes.

Ms Anne Charreyron-Perchet, Head of the Ministry for Ecology, Sustainable Development and Energy's Sustainable Cities Strategic Mission, then outlined the main aspects of the “post-carbon city” programme. This forward looking initiative addresses three main challenges for the city of the future: Factor 4, independence in relation to fossil fuels and adaptation of cities to climate change.

Evaluation of ecosystem services and preservation of biodiversity

Egis Group has developed various experimental methods to evaluate ecosystem services, to support more effective preservation of biodiversity. These methods are used, notably, for the *Gestion des infrastructures pour la restauration écologique du littoral* project (*GIREL* – management of infrastructure for restoration of coastal ecology), in the Marseille Maritime Port (France), where Egis is acting as an industrial partner. The open debate amongst members centred on the Group's capacity to make these methods into decision-making aid tools for the building of infrastructure.

To close the session on biodiversity, Ms Maude Lelièvre, General Delegate for Eco-mayors¹, presented two new provisions issuing from the *Grenelle* Environment Act to help municipalities preserve their biodiversity: the blue and green corridors and the ABC Biodiversity Atlas.

¹ French national and international association of the mayors and the local elected representatives for the SD for 26 years

Key points of the Meeting of 8 June 2011

This meeting of the Egis Sustainable Development Steering Committee provided the opportunity for a summary to be made of the consultation exercise undertaken amongst members on the expectations of authorities acting as principals in the area of sustainable development and of the main issues for an international engineering group. The question of placing on the market an innovative sustainable development related solution and the creation of a corresponding market potential was then addressed.

International groups' CSR strategies and Egis Group's approach

Prior to this meeting, the external members of the Sustainable Development Steering Committee had been questioned as to the main challenges in the area of sustainable development for an international engineering group like Egis, and on the themes that appeared to correspond closest to the expectations of sub-national territorial authorities and bodies acting as principals.

A summary of responses from the questionnaires was presented by the consultants Alliantis in order to open the debate on priority issues: energy and climate, environmental protection, support for societal issues and project acceptability. The approaches and solutions that seemed, in the members' opinion, to be in line with the current expectations of principals were then discussed: integrated approach, innovative tools, etc.

Dissemination of sustainable development innovations and raising principals' awareness

As an introduction a video was shown presenting the *éco-cavalier* (eco-saddle pipe clamp), an eco-design technology for marine structures. Providing a habitat for marine fauna and flora, this technology, developed by Egis to anchor pipelines, won the "Enterprises and Environment" award for biodiversity.

Another of the Group's innovations, created by Elioth (an entity employing forty people within the Egis Group) was then unveiled to the Committee members. Subsequent discussions centred on how to disseminate this pilot project in the area of renewable energy, born in 2006, in a complex market marked by a dichotomy between those who produce energy and those who ensure its delivery.

Discussions between members then addressed elements such as the overall coherence of the project, its social acceptability, the Group's commercial approach, potential markets and possible partners to be sought.

Key points of the Meeting of 30 November 2011

After an update on Egis' international situation and the Group's CSR roadmap, this Sustainable Development Steering Committee meeting was dedicated to the study of two projects in which Egis was involved: a motorway project and a new city project in Equatorial Africa.

Nicolas Jachiet, Egis' CEO, opened the discussions with a brief roundup of the Group's current international situation: opening of the Egis Campus corporate university, acquisitions in Brazil and India, and signing of the United Nations Global Compact. Ms Martine Jauroyon, Egis' Director for Sustainable Development and Performance, then recalled the Group's commitment on the occasion of the UN's Rio + 20 international conference: participation in the Rio + 20 Enterprises meeting, drafting of a stakeholders' log book and a planned visit to Brazil. In addition Egis was one of the partners to the 1st international CSR Pioneers in Africa Forum, organised in Douala, Cameroon. Lastly, she presented the Group's CSR roadmap which focuses both on Egis' areas of business and on internal issues.

Balances to be found in terms of responsible solutions for a given project

On the basis of a precise example of infrastructure projects, Mr Loïc Perdriel, Project Director at Egis International, explained the difficulties in specifying different value-added solutions in the area of sustainable development. For example, some recommendations relative to environmentally responsible construction can increase an operation's overall carbon footprint.

The subsequent open debate with members addressed the ways in which an optimum can be achieved between the different sustainable development related issues and the different approaches that can be proposed to project owners.

New city in Africa project

On the basis of a new city project, for which the Group was tasked with optimising of the master plan, Mr Thierry Lestoille, Egis International's Deputy CEO, and Mr Jean-Marc Bouillon, CEO of Egis Atelier Villes et Paysages, explained to the members the dilemmas with which they had been confronted.

The discussions between the Egis team and the Committee's external members covered the Group's margins for manoeuvre, notably regarding relations with customer and the potential setting points for Egis' value added for this type of international project.

These exchanges of views in the presence of the Group's senior managers allowed questioning of Egis' approach in the area of major projects and consolidation of its logic of responsibility in the implementation of sustainable development projects and of its ethical approach to its clients.

Key points of the Meeting of 24 May 2012

This 5th meeting of the Sustainable Development Steering Committee provided the occasion for discussion of the long term strategies developed by the Group's foresight management and for exchanges of views on the question of the inclusion of societal issues in a waste treatment project.

In her opening address Ms Martine Jauroyon, Egis' Director for Sustainable Development and Performance presented some of the Group's investments and achievements in the area of energy performance and the final version of the Group's Sustainable Development Commitment Charter, on which the members of the Sustainable Development Steering Committee had been consulted directly.

A forward looking analysis for engineering in 2025

This discussion first addressed the major trends and the areas of business in which Egis could distinguish itself in terms of expertise. The various problems that will confront the engineering sector, as well as those more internal to the Group, were also discussed. Mr Raphaël Ménard, Egis' Director of Foresight Studies, then presented all of the Committee members with a summary of the forward thinking initiated within the Group to the time horizon of 2025: position envisaged, development issues and innovative portfolio of services. This exercise allowed members to state their position on the long-term evolution envisaged for the Group and to enrich thinking with their view on governance and evolution of professional practices.

Mr Philippe Bruel, Egis' Deputy Company Secretary, then opened a debate on the energy transition focusing, notably, on the different approaches identified internationally regarding exploitation of hydrocarbons in bedrock.

Social questions relating to waste treatment in developing countries

The international waste treatment market is evolving rapidly, notably in developing countries. Under the pressure of the rapid urbanisation that such countries are experiencing, waste management is becoming a crucial issue for public health and hygiene and also for the image of the megalopolises concerned. To address this subject in a practical manner with the Sustainable Development Steering Committee members, two managers from Egis Waste Management and Egis international (development consultants) presented a recent waste treatment project in Equatorial Africa for which Egis had been selected to provide the engineering design and supervision of works.

In general, incorporation of social and societal aspects into such assignments constitutes a real difficulty owing to the relative lack of any form of specification. The approaches to be developed in the field and dialogue to be built with clients regarding this issue were the focus of the exchanges of views with the members.

Key points of the Meeting of 13 November 2012

This meeting provided the opportunity to exchange views with the Chair of the association “Décider Ensemble²” (Deciding Together), to address strategies for adaptation to climate change and to debate the risk of flooding.

Cooperation: “calling on collective intelligence” (B. Plancher)

Member of the Egis Sustainable Development Steering Committee since its creation, the *Décider Ensemble* association was particularly well represented at the 13 November meeting, in the person of Mr Bertrand Plancher, member of Parliament for the Meuse department and Chair of the association, who was present alongside the association's new Director, Mr Luc Picot.

This debate with the members provided the opportunity to emphasise that the question of social acceptability now arises in numerous contexts. Approaches to cooperation and openness to stakeholders are multiplying in number. Driven by greater accessibility to information and increasing insistence on the themes of health and environment, this trend has to be faced. This is the basis of *Décider Ensemble's* actions, collaborating with Egis in different areas of work and in seminars.

Adaptation to climate change

The issue of adaptation to climate change is now an increasing international concern. Egis has developed tools in the area and has conducted numerous studies, including that for adaptation to climate change by coastal cities in Northern Africa, undertaken for the World Bank.

The debate with the Sustainable Development Steering Committee members enabled identification of different approaches of funding agencies to financing and types of developments. The question of which measures should be favoured was then raised in terms, notably, of the target populations and technical approaches to be envisaged, sometimes in the absence of reliable data and models.

Managing the risk of flooding

Flooding is the major natural hazard in France. It accounts for 80% of the cost of damage arising from natural hazards. And the level of damage has increased considerably over the past 30 years owing to urban development in flood prone areas. In France, 5 million people reside in floodable areas.

On the basis of an actual urban redevelopment project in a flood prone area, Egis Eau explained to the Sustainable Development Steering Committee members the company's approach to the risk of flooding, and the problems arising from use of technologies of the “resilient city” type. Discussions covered the interactions that can be envisaged between the different actors responsible for water management, the contributions Egis can make to flood risk management, and the development of a risk-awareness culture.

² A think tank which gathers the French actors to create and spread a culture of the shared decision

Key points of the Meeting of 30 May 2013

The topic for this meeting of the Sustainable Development Steering Committee organised during the “national debate on energy transition” was “Energy”, with an initial exchange of views on the national debate and associated issues and then a focus on the contribution made by heating and cooling networks.

The national debate on energy transition

The organisation of a national debate on energy transition elicited numerous comments from Sustainable Development Steering Committee members. Several of them have also contributed via the stakeholders' log books. Discussions covered the form of the national debate based on a dialogue with stakeholders and direct consultation of a panel of French citizens, as well as addressing several basic questions.

Where the form of the debate is concerned, sharing of issues and technical innovations and organisation on a sub-national territorial level were the key elements debated by members. For the basic questions, it was often pointed out that the issues of climate and energy cannot be dissociated in a context in which long-term concerns seem to be relegated to the background. Other subjects debated were: the importance of energy efficiency, impact of behaviour, global approach to urban development, cooperation between actors and investment procedures.

Mr Denis Merville, Chair of the Sustainable Development and Environment Commission of the *Association des Maires de France (AMF)* – association of mayors of France) made use of the meeting to shed light on the major aspects of the stakeholders' log book produced by the *AMF* within the framework of the national debate. “A demanding partner of public authorities” the *AMF* wishes, notably, that local authorities should be exempt from additional financial constraints, should continue to contribute fully in terms of production of renewable energy and should be more closely involved in energy investment, without impinging on the role of the major operators.

Energy efficiency and saving: the role of networks (cooling and heating)

To illustrate the issue of energy transition, the second part of the meeting concentrated on cooling and heating networks. These are likely to occupy a larger share of the energy mix in the future, given that France is currently amongst the European countries making least use of such networks.

In introducing the debate, Mr Laurence Poirier-Dietz, CEO of Climespace, a subsidiary of GDF-SUEZ (now Engie), gave the provider-operator-producer's point of view based on the example of a cooling network in Paris. Two Egis managers then presented innovations developed in this area when building the new headquarters of the Ministry of Defence in the Balard area of Paris.

Discussions between members then addressed the supply of these heating networks, the sustainability of their upstream suppliers (including fuelwood), mechanisms for investment in the networks, their profitability and their development.

Key points of the Meeting of 22 November 2013

This meeting concentrated on a central theme: engineering applied to the sustainable city. It is a subject of prime importance for Egis which, at the start of 2013, created a new dedicated business line: My city by Egis. On the occasion of the meeting, Mr Antoine Grumbach, Architect and Town Planner, presented his vision of the sustainable city.

“Tomorrow's city” according to Antoine Grumbach, Architect – Town Planner

Creator of the *Seine Metropole* (Seine metropolis) project (from Le Havre to Paris - France), Antoine Grumbach is of the opinion that the city is now an obsolete concept and that we should be thinking in terms of the metropolis. A number of urban challenges need to be addressed to ensure that a metropolis functions correctly: mobility, access to water, sanitation, etc. Metropolises will be in constant flux: they will be permanently evolving and will create new forms of development for themselves.

“We have gone from a culture of foundation to a culture of transformation” Antoine Grumbach emphasises. Today, there is a need to re-densify or intensify the metropolis. *“Habitat and movement must be considered together.”* A systemic approach is required, articulating all of the problems (buildings, transport, businesses, shops, etc.).

The debate between Mr Grumbach and the Committee members then addressed the experiments made, cooperative actions, planning, new forms of the city, and social mix.

The outstanding points of services proposed for the “sustainable city” by France and by Egis

French companies have some major advantages in the area of sustainable cities but actors are prospecting the international market in an unstructured way. To help remedy this, the public authorities decided to create an umbrella banner, “Vivapolis”. Egis is an active participant.

During the meeting, Mr Jean-Michel Ristori, Co-Director of the “My city by Egis” business line explained the outstanding points of France's offering for the sustainable city, notably those allowing a sustainable increase in cities' economic potential, with a continuous concern for improving quality of life.

To illustrate Egis' expertise, the Nouadhibou city project (Mauritania's 2nd major city), directed by Egis, was explained in detail. The aim for Egis was to make this city, with its population of 120,000 into an international reference for sustainable urban development. A major study of context was undertaken for this project so as to propose a development plan for the next 15 years via the drafting of an operational master plan (OMP) and a year-on-year development plan. Sustainable development was a structuring element in the OMP designed by Egis: a dedicated site public transport line, direct connections between activity areas and trade centres, densification of the built environment, a green belt around the city that could be used for market gardening, local treatment of wastewater partially reused to irrigate crops, etc.

After these presentations, discussions with the Sustainable Development Steering Committee members centred on the expertise, limits and specific aspects of French actors in urban planning, on project governance, good international practices and project financing.

Key points of the Meeting of 3 April 2014

This meeting made it possible to address new services with a societal role currently being developed by Egis: the first concerns the psycho-sociology of sub-national territories and has been the subject of an experimental participatory survey on landscape, the second addresses soft infrastructures in an urban environment.

The first participatory survey on landscape and the living environment

Between 2009 and 2013, Egis carried out research in partnership with the University of Nîmes, a specialist institution in the area of environmental social psychology. On the basis of this initial work, Egis developed an operational methodology and tested it in the municipality of Fleurines¹ (population 1,800) as part of a pilot operation. The aim of this participatory landscape study was to report on the local population's perception of their territory.

Via this exercise, the citizens of Fleurines were able to share their perception of their landscape and their daily living environment, to detail both the values that were dear to them and the inconveniences to which they felt exposed. This full-scale test allowed comparison of the participatory approach with the "classic" urban study conducted in 2006, and to thereby identify the value-added of this new methodology.

After presentation of the experiment, discussions with Committee members focused on "bridges" between the voluntary declaration and structured study approaches, on the areas of application of this type of method and its limitations, on similar experiences in the international arena and on the format for reporting on these studies.

Soft infrastructures for a different sort of city

Soft infrastructure offers citizens a new type of channel or public space that is currently lacking in our conglomerations. The *Atelier Villes et Paysages (AVP)*² team has therefore developed an experimental service offer that hybridises urban development policies. Mr Jean-Marc Bouillon, Director of AVP and Mr Bruno Cremet, its urban planning manager, gave an initial breakdown of the principles and an outline of this new approach.

The soft infrastructure concept rethinks the city on the basis of places where social life finds expression. It networks the city's urban attractors (places of administration, economy and trade, leisure, etc.) by creating a vast reticular public space forming the infrastructure of social life. It allows soft access to the main amenities. Soft infrastructure is a powerful creator of local community value (value of use, property, economy) and an aggregator of policies (housing, mobility, green and blue corridors, etc.) fostering regeneration of the city to make it more inclusive.

Discussions with the Sustainable Development Steering Committee members covered the advantages of this new approach, its denomination and its marketing. The way in which clients can be made aware of these issues was also broached.

¹ Fleurines is in the Oise department, in the Picardy region - France

² An Egis Group subsidiary.

Key points of the Meeting of 21 November 2014

On the occasion of this 10th meeting the two main debates were on new forms of governance in urban projects and tools for monetisation of services provided by nature. The session was completed with a presentation on the Caisse des Dépôt's "Biodiversity" strategy and information on the evolution of the "Wind-it" project, presented to the Committee in 2011.

A proposed debate on concrete examples of cooperation between sub-national territories

The question of governance in urban projects and techniques for cooperation was addressed by means of a dual presentation. Mr Luc Picot, Director of *Décider Ensemble*, and Mr Benoît Juster, CEO of Egis Conseil, based their talk on two examples: the cooperation organised for completion of the *Anneau des sciences* ring-road project in Lyon (France) and innovative cooperation at Bouchemaine for eco-rehabilitation projects.

These presentations elicited numerous comments on the part of the meeting's participants on the limits of public debate in its current form, the role of territorial authorities, tools to be used, and mechanisms to stimulate the involvement of populations concerned.

Monetisation of ecosystem services

In introduction to this part, Mr Nicolas Blanc, Innovation and Sustainable Development Manager at the *Caisse des Dépôts* (CDC), was invited to present the CDC's "Biodiversity" strategy, a complex subject given the CDC's different areas of intervention. Egis then presented the "Aulnes" tool/method intended to survey and map the value of services produced by nature.

Initial efforts are currently under way to incorporate biodiversity into development projects. However, with the classic forms of study (identifying remarkable sites and biological corridors) it is still difficult to obtain a clear view of the contributions from biodiversity. This tool (Aulnes) makes it possible to go further in estimating those contributions.

Return to the Wind-it project

This project was presented to the Sustainable Development Steering Committee members in 2011 and was the subject of criticism. In the light of the members' suggestions, Egis has further developed the project. Mr Martial Chevreuil, Egis' Technical Director for Innovation, retraced the project's evolution.

This type of follow-up exercise was one of the requests expressed by members in the satisfaction survey in 2014.

Key points of the Meeting of 9 April 2015

During this meeting Egis Projects³ presented the BNV Mobility scheme, dedicated to changing behaviour in the area of mobility. The Agence Française de Développement (AFD – French development agency) and Egis then co-led a session on the vulnerability of infrastructure to climate change.

After giving a brief report of the Egis Group's trading results in his opening, Mr Nicolas Jachiet, CEO, welcomed Mr Pierre Van Cornewal, the TDIE⁴ association's new delegate to the Steering Committee.

Encouraging road users to avoid rush hour

BNV Mobility is a scheme that aims to reward users of infrastructure for “non-use” during rush hour, so as to reduce traffic intensity. This innovative approach, which can be described as a “positive toll charge” is an alternative to increasing road capacity or regulation of flows by an additional toll charge or tax.

The region of Rotterdam has already contracted three traffic reduction projects during rush hours based on this principle and comprising, in all, 20,000 participants. Over 5 years traffic has been reduced by 5%, a satisfactorily visible result.

Discussions in the meeting concerned the sustainability of these incentives (known as green nudges) to change behaviour, the types of remuneration received by participants, associated technical innovations, savings made (notably in overall cost), and the economic models to be developed to offer this kind of service.

Analysing climate risk to better integrate it into infrastructure products

The AFD presented its climate risk analysis method, a complement to the logic of financing adaptation, based on “climate screening”, and processing of the identified risk. After an initial test phase in 2014, deployed with methodological support provided by Egis, the AFD continued with systematisation of this approach in 2015 and participated in working groups on the question (IFIs, EUFIWACC).

The AFD's aim via this approach is to improve robustness of infrastructures rather than optimising them, and to favour their adaptive management. The main difficulty is still to quantify and characterise risks, but also to bring project owners to integrate them.

Discussions with the Committee members dealt with the capacities for use of local expertise, the perception of the approach by project owners, complements to be added to conventional risk analysis, and various international examples in this area.

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³ Egis Projects has developed the capacity to respond to calls for tenders from public authorities to propose services for projects in the areas of remote toll collection for HGVs, urban toll systems, freeflow electronic toll collection, interoperability, automatic penalty systems and inter-modal continuity. Egis develops innovative solutions, including associated services to clients, in all of these areas.

⁴ TDIE : French pluralistic association, gathering actors of various ways of transportation: professionals, national and territorial, expert and university elected representatives. His objective is the promotion, with public authorities and with the Parliament, proposals in the service of a multimodal politics of transport and travels.

Key points of the Meeting of Thursday 12 November 2015

After presentation of Construction21, the social network for construction and the sustainable city, this meeting discussed two innovative solutions from Egis that illustrate the Group's current thinking in the areas of ecological and energy transition: a tool for the management of energy renovation projects and an innovative solution for waste treatment.

This new meeting of the Sustainable Development Steering Committee was joined by two new members: Mr Christophe Nuttal, Executive Director of R20 (Region of Climate Action) and Mr Jean-Louis Marchand, Chair of the Advancity smart metropolis hub.

Internet platforms and tools dedicated to building energy performance

In his opening address, Mr Christian Brodhag, Chair of Construction21, presented this social media initiative dedicated to new approaches to construction and renovation and intended to accelerate the transition to a green building economy. Acting as both a collaborative platform and information portal for professionals, Construction21, launched in March 2012 in 6 countries, aims to cover 50 countries by 2020.

The e-portfolio tool developed by Egis and accessible in SaaS mode, is used to monitor the implementation of energy saving measures in property assets, and to update data as projects and their contexts evolve. The tool also provides the possibility of comparing performance levels actually achieved with the theoretical performance aimed for, by displaying measures implemented with success and, where relevant, any problems/failures. Accessible to several users simultaneously, this collaborative platform has the following functions: asset inventory, planning and monitoring of works, decision-making reporting, and sector and regulation monitoring.

Committee members' discussions covered the mechanisms for dissemination of this technology; its uptake by both internal and external actors; modes of commercialisation of the tool; and the collaborative business model, a breakaway from our current business models.

A modular solution for waste treatment and value recovery

Catherine Jatteau, the Director of Egis Waste Management then presented a proposed waste treatment and value recovery service that is both mobile and modular. Based on innovative technology, this solution appears to respond to a certain number of waste collection and treatment problems. Initial feedback is satisfactory, though still limited.

This innovative scheme for recovery of value from waste raised genuine interest on the part of the members, given its potential. Discussions on the solution related to the acceptability of the technology, capacities for deployment, safety aspects and possible commercial outlets.

Key points of the Meeting of 15 April 2016

The agenda for this meeting consisted of forward looking subjects: energy management for cities, on the basis of the Paris-Saclay heating and cooling network in which Egis is involved, and the impact of Big Data on the engineering professions.

In his opening address, Mr Nicolas Jachiet, Egis CEO, recalled to mind that energy, ecological and digital transitions were important aspects of the new enterprise project that is being formulated.

New models for energy management in the urban environment

The project for the Paris-Saclay urban campus (French campus) – which will host the University of Paris, several major schools and centres of innovation such as the R&D Centre and Campus EDF – is one of the main avenues of development for the Greater Paris initiative.

Working in partnership with IDEX, Egis is to design and build an innovative heating and cooling network for the *Etablissement Public Paris-Saclay* (Paris-Saclay public authority). This will be a “smart” network since it operates in both directions: it delivers heat to buildings and recovers the energy produced by “positive energy” ones. The project showcases Egis' expertise in design of a new energy model, a smart network and cooling and heating network, by helping to make Paris-Saclay an “eco-territory”.

On the basis of this project presented by the Egis teams, Committee members discussed the governance of these new innovative collective systems, the means of addressing wishes and expectations at the sub-national territory level, and the approach to be applied to meet the challenges of innovation, adaptability and network flexibility.

The Big Data revolution and engineering

In just a few years the scope of the implications of Big Data has greatly expanded but the possibilities offered by processing of megadata still remain largely unexplored.

In the field of engineering, first initiatives in co-production around industrial projects have been observed as well as the emergence of new tools for collaborative production (“cloud production”), operating as data exchange platforms.

Committee members' discussions on this subject covered the criteria of responsibility in a collaborative economy, initial applications emerging from Big Data, but also the risks and limitations of this mass use of data. The debate concluded with discussion of the different approaches that Egis could implement in this area to benefit from this digital revolution while still respecting its social responsibility, and societal and environmental values.

Key points of the Meeting of 2 december 2016

This meeting was an opportunity for the French Development Agency (AFD) to present its tool for reviewing and analysing the sustainability of projects put forward for funding, and also enabled a young doctoral student (completing his thesis at Egis Rail) to present an innovative approach: the so-called "multifunctional" metro.

Methodology for analysing the sustainability of projects: the example of the French Development Agency

Beatriz Vaca, in charge of running the AFD's "sustainable development analysis and review" programme, presented the methodology that the AFD uses to analyse projects with consideration of the different dimensions of sustainable development. To illustrate her point, she used a recent waste treatment project in China submitted to the AFD.

Some ideas for improving the system were raised, including indicators, the ability to monitor the project, and transparency.

This presentation opened up the debate on methods for analysing project sustainability, their complexity and their benefits in different situations. Various members also shared their experiences regarding their own project analysis tools.

Pooling infrastructure: the multifunctional metro

Having noted a continuous fall in the investment amounts - especially public - allocated to equipment and facilities, Nicolas Ziv (an ESTP PhD student working at Egis Rail) decided to conduct research on ways to optimise a metro project through new uses.

This optimisation approach offers many advantages: it fulfils multiple needs through a single infrastructure, cuts costs, optimises the use of resources, and reduces disturbance related to construction work.

Discussions at the Steering Committee mainly revolved around the concept of pooling resources and the infrastructure as a "common good". The crucial role of stakeholders in this type of process was also discussed. Finally, the issue of the economic model of this multi-stakeholder approach generated a number of proposals and ideas for research.

Key points from the meeting of Friday 5 May 2017

Two projects being carried by Egis were presented at the meeting of the Egis Sustainable Development Steering Committee on 5 May 2017: "The A63, a positive energy motorway" and "Wattpeople", a solution dedicated to the production and self-consumption of renewable energy. These two projects are among the 15 winners of the Caisse des Dépôts Innovation Trophy and were presented at the closing of its bicentennial on 7 December 2016.

After talking about the increase in the group's turnover in 2016 and the consolidation of its international activities, Nicolas JACHET, CEO of Egis, explained that the Egis organisation was now based on new Business units (BUs), including a "Major Works, Water, Environment, Energy" unit. Martine JAUROYON, Manager of Business Transformation and CSR, then pointed out that a first "ideathon" has been launched on the issue of data at the service of transitions, to develop intrapreneurship within the group and support innovation.

A positive energy motorway: the example of the A63

This project, initiated by the Egis Road Operation teams that were joined by the Société Forestière and Caisse des Dépôts, has several objectives: to produce, through the development of assets, as much green energy as the motorway uses, to maximize the services rendered by the infrastructure and its surrounds, to bring about green mobility on the infrastructure and to promote innovation and partnerships in liaison with local authorities.

Overall, the initiative was welcomed by the participants. Discussions focused on ways to develop the un-used parts of the asset, the technological innovations implemented and their return on investment, the potential of renewable energy production and the development of the surrounding territories. The issue of social acceptability of the motorway was at the heart of these discussions.

WattPeople, a tool for coordinating local self-consumption projects

The adoption in July 2016 of the ruling on self-consumption of renewable energy in France as well as the clarifications provided in the law of February 2017 removed the last barriers to the development of off-grid electricity solutions for individuals or communities.

Acting as a social network dedicated to community energy, WattPeople allows consumers to share their resources, ideas, projects and energy and thus become energy "prosumers" within their community. WattPeople is all about encouraging the creation of communities of consumers formed around local energy loops or microgrids.

The experts gathered around the table debated the benefits to be gained from this type of arrangement, the role and involvement of Egis, the limitations inherent in the principle of communities, the technical issues related to self-consumption and connection to the network and possible areas for deployment and experimentation.

Key points from the meeting of the 1st December 2017

The 16th meeting of the Sustainable Development Steering Committee focused on two key topics: a presentation of the study "Paris, an air of change. Towards carbon neutrality in 2050" by Egis's Director of Foresight Studies, and an update on "Wood, a building material for the future?" supported by descriptions of the various wood-based high-rise construction projects on which Egis has worked.

After a few words about Egis's 20th anniversary, Nicolas Jachiet, Chairman and Chief Executive Officer, said that the group has been focusing on its strategic objectives: performance and growth; geographical selectivity of the business; a focus on engineering, consulting and the development of new services; a quick response to major transitions (energy/ecological and digital). Following this, Martine Jauroyon, Egis Director of business transformation and CSR, spoke about the launch of Cycle-Up in early 2018, a web marketplace dedicated to the reuse of materials. This initiative, led by Egis and Icade, is also a fantastic example of human endeavour and intrapreneurship at Egis: the startup was created in just a year.

The study on carbon neutrality by 2050 in the city of Paris

The city of Paris assigned a consortium led by Elioth - along with Egis Conseil, Quattrolibri and Mana - to carry out a strategic study for the creation of a carbon-free vision for Paris by the end of 2050. This study, unveiled in March 2017, suggests directions, solutions and sometimes radical measures, such as halving waste, installing 6 million sqm of solar roofs, and creating 150 hectares of urban agriculture, to name but a few. In doing so, it is taking on the challenge of uniting different stakeholders around the goal of carbon neutrality.

This study also establishes individual "trajectories" for nine different categories of Parisians, and the changes to be made for these categories in terms of housing, transport, food, leisure, and values.

Participants commended the multi-faceted nature of this study and its sociological approach, as well as its highly political dimension. Discussions focused on issues of behaviour change, the role of a consumer policy, and the inter-regional support schemes to be implemented to enable Paris to achieve its objectives.

Wood, a building material for the future?

While wood construction is gaining new heights, Egis is involved in the engineering (particularly environmental design and structure) for various tower projects (Tour Silva in Bordeaux- ZAC Bédier, Wood Up and the communal tower on the ZAC Paris Rive Gauche), having already completed the Allianz Riviera stadium in Nice (the largest three-dimensional wood structure ever designed for an enclosure of this type).

After an update on some completed projects and plans, the benefits of wood and the aims of the Adivbois association, discussions focused on initiatives to certify wood construction and its political acceptability, as well as the structuring and regional accountability in the wood industry in France

Key points from the meeting of the 6 April 2018

The two projects presented during this 17th meeting were a result of the first Egis Idéathon, aimed at identifying breakthrough innovations for all of the group's businesses. This "ideas marathon" was held from 15 to 16 June 2017. On 6 April, the following were presented to the Steering Committee members: the 1st prize winner, "Tàn", and the "Watenergy" employee prize.

At the opening of the debates, Nicolas JACHIET, President and CEO of Egis, stressed that the Group's strategic objectives for 2020 had been refined and redefined as part of the corporate plan. In addition, a "2°C" action plan is currently being developed.

Watenergy: combining water collection/treatment projects and energy transition

Though our waters carry substantial energy potential (heat, biochemical and hydraulic), water treatment facilities, whether they be for potable water production or purification, remain highly energy intensive. The potential of these facilities for energy production is very rarely taken into account or incorporated into their design. Conceived by Egis teams as part of Ideathon 2017, Watenergy is a tool which identifies potential green energy that can be produced and promoted by local users during wastewater collection and processing projects. Vincent Lalire, Water Project Manager (Major works, water, environment and energy BU) explained the principle to committee members. Participants welcomed the innovative approach developed by Egis's teams and questioned Vincent Lalire as to the solution's deployment, acceptance, associated services, and the arguments and explanations to be put forward to potential project owners. External experts mentioned various experiments to be analysed, as well as specific stakeholders to be involved in the approach, and proposals for synergies to be established for the tool.

Tàn, a support platform for carbon neutrality

Tàn (carbon in Chinese) is a platform that unites stakeholders and removes the major obstacles to concretely and effectively combating climate change. This incentive platform supports citizens in reaching carbon neutrality, at their own pace, whatever their age, profession, and/ or location, by helping them to change their behaviours. The discussion between Sébastien Duprat, Deputy Director of Egis Conseil, who presented this solution, and experts from the Sustainable Development Steering Committee centred on whether Egis has what it takes to lead this type of B2C approach. The tool's "promise", deemed relevant and beneficial, was also at the heart of the debate. Its roll-out to targeted communities and the partnerships that need to be developed to this end, were the subject of numerous proposals.

List of permanent members, April 2018

Name	Function	Organisation
Bonnardel Frédéric	SD Manager	Caisse des Dépôts et Consignations
Bonnel Alexis	Environment, development consultant	Association Française de Développement
Briaumont Dorothée	Director	SOLAAL
Brodagh Christian	Director of Research	Ecole Nationale Supérieure des Mines de Saint-Etienne
Chevreuil Martial	Business Innovation Director	Egis
Colombier Michel	Scientific Director	Institut du développement durable et des relations internationales
Cousin Florence	Head of Climate/CSR Centre, Sustainable Development Division	SNCF
Cunin Rémi	Delegate CEO	Egis
Faure Pierre	President	AFNET
Gallet Bertrand	CEO	Cités Unies de France
Gasser Beatrice	Technical and sustainable devpt director	Egis
Godinot Marie-Luce	Director for Innovation and Sustainable Development	Bouygues Construction
Jachiet Nicolas	Chair - CEO	Egis
Jauroyon Martine	Advisor to Chair - CEO	Egis
Laville Elisabeth	Founding Director	Agence Utopies
Lelievre Maud	Delegate General	Association Les Ecomaires
Marchand Jean-Louis	Chair of ADVANCITY Smart Metropolis Hub	Advancity
Menard Raphaël	Director for Foresight Studies	Egis
Mereau Marc	Director	Egis Environnement
Michel Patrick	Director for Sustainable Development	Egis Eau
Mimram Marc	Architect-Engineer	Ecole d'Architecture de Marne La Vallée
Nuttall Christophe	Executive Director	R20
Odolant Xavier	Director for Strategy and Acquisitions	Egis Projects
Picot Luc	Director	Décider Ensemble
Van Cornewal Pierre	Delegate General	Association TDIE
Villaudiere Sylvianne	Founding Director	Alliantis