

# Séminaire « Soutenabilités »

## Contribution - Covid-19 : pour un « après » soutenable

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- Quelles relations entre savoir, pouvoirs et opinions ?

**Intitulé de votre contribution :** Universities as Strategic Actors to decarbonize the economy

**Résumé de votre contribution :**

It took time for academics to realize that their own scientific skills did not exclude them from the appropriation of more transversal knowledge. Now, we have data that allow academics to question certain forms of teaching. Through the experiments, the advances made in some universities and countries, it seems that new transversal knowledge could be proposed to students. This academic function could be improved by a deep innovation effort, taking into account the innovation service pattern, which is now far well known than 20 years ago.

## Universities as Strategic Actors to decarbonize the economy

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In 1972, four MIT scholars committed by the Club of Rome published *The Limits to Growth*, the so called “Meadows Report”. For the first time in modern economy it was announced that if the rate of resource use is increasing, the amount of reserves cannot be calculated by simply taking the current known reserves and by dividing them by the current yearly usage. And if millions of copies of this book were purchased, it is difficult to appreciate the real impact of such a document. It is approximately the same as far as the *Brundtland Report* is concerned, published in 1987 under the title *Our Common Future* and presented as well at the Earth Summit in Rio de Janeiro in 1992 as at the third UN Conference on Environment and Development in Johannesburg in 2002.

On the other hand, the publication of the *8 millennium goals* in 2000 shed light on the links between environmental sustainability, extreme poverty, health, and education—the primary objective. 3 years after the Kyoto Protocol and 12 years after the first IGEEC Report, global warming becomes a real issue. Some European Universities began to launch plans, experiences, projects in order to decarbonize their activities. Adhesions were made to Global Compact, sustainable managers were appointed, new MA programs were proposed to students.

As of today, the academic commitments to sustainability are considerably different from one place to another that the research subject of the present paper will be: Can Universities act as strategic actors to decarbonize the economy?

As far as this paper is concerned, we have leant on the main international networks the present author is belonging to: the *Research Network on Services and Space* (30 European Universities), the FIUC (International Federation of Catholic Universities, providing 42 answers out of 225 participants). We have also read the results published by *the Schiff Project* following their inquiry, involving 34 major French Universities, as well as a substantial amount of sustainability development pages over several academic sites.

### 1. Are universities involved in sustainable development?

In the UN *8 millennium goals* (2000), the focus was put on primary education not only as a fundamental need for people, but also for economies in underdeveloped countries. Up to now, the alphabetization rate is under 35% in many African countries, although it reaches 99,9 % in Europe, North America, South Korea and Japan (PNUD 2018). In 2007, the UN launched a platform called “Principles for Responsible Management Education” (PMRE) in order to raise the problem of sustainability in the schools around the world. If, as of today, 650 signatures have sponsored this platform worldwide, this looks like, all the same, as a very young project that has not convinced many schools and universities yet.

In 2015, the UN agenda for 2030 included 17 UN's global development goals. The education goals have been enlarged and appear more clearly for the European countries. In this new agenda for sustainable development, the goal 4 sounds: "Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all"; the goal 5 says: "Achieve gender equality and empower all women and girls"; and the 8 declares: "Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all". This is not only just putting the light on the literacy skills, but to claim the right of all persons, men and women, to be educated and able to be involved in economic activities and, by that way, to become autonomous citizens lifelong.

On the other hand, the year 2015 has contributed greatly to the developing awareness of a climate emergency around the world. In June of the same year, Pope Francis' encyclical *Laudato si'* was published. This document takes not only a religious point of view into account, but also contemporary scientific findings, and decidedly rejects the technocratic mindset supposing that new technologies will be able to solve the sustainability development problems. This document has been widely read and has convinced a number of Universities—not exclusively Catholic—about the urgency of a review of our collective and individual behaviors.

2015 is also the year of the COP 21 meeting in Paris, also known as the 2015 Paris Climate Conference. For the first time in over 20 years of UN negotiations, it achieved a legally binding and universal agreement on climate, culminating in the program of keeping global warming below 2°C. Up to now, 186 parties among the 197 presents have ratified this Convention.

Among the different universities we have consulted, it appears the early birds universities actors were located in northern Europe. Southern Europe universities are now following, while Eastern Europe ones are involved in a complex political process pretty far from a sustainable development analysis. Since 2004, the early birds universities obtained an ISO 14001 certification, asked for an EMAS registration<sup>1</sup> (Gävle University, Göteborg University, Nottingham, 2005...) and began to build their own eco-campus. We will follow, early birds and others, in this process to try to understand *where?* the constraints were located, and why so few results are visible on a large scale.

### 1.1 Universities as services suppliers

Universities are very old institutions. In Europe, they appeared at the beginning of the 13<sup>th</sup> century, two hundred years after Al-Qarawiyyin in Fez (Maroc) (859) and Al-Azhar in Cairo (Egypt) (972), the first Islamic universities. Since the beginning, students have been welcome in these places in order to meet, and to listen to scientists that are expert in very specific topics. Students were also travelling from one university to another to meet and to listen to other scholars. Until now, universities are all the more renowned if some Nobel prices or very famous scientists are teaching over there. What does this mean? Students come to obtain a service, an educational service from their professors. That the service is free of charge or not, the production made by these professors is a knowledgeable, not a material one. It was like that many centuries ago, and although things have changed, the transmission of knowledge still remains essentially immaterial.

It seems useful to look at the specific characteristics of service production.

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<sup>1</sup> [KaisuSammalisto](https://www.sciencedirect.com/science/article/pii/S0959652606002836)<sup>a</sup><https://www.sciencedirect.com/science/article/pii/S0959652606002836> - !TorbjörnBrorson<sup>b</sup>

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As explained by F.Gallouj and J.Sundbo<sup>2ii</sup> (1998), “each service transaction may be considered as unique as far as it is produced on demand (tailor made) in interaction with the client or as a response to a specific, not standardisable problem and in different environments”. In knowledge intensive service, the client’s participation is important. The authors add “different types of elements are being exchanged: information and knowledge, emotions, verbal and gesture...”. All along centuries, the relationship between students and professors has been immaterial as well as personal. Each of us remembers his or her professor’s voice, attitude ... The materiality of the service was involved in books which were not produced and sold by universities but by publishers.

As many knowledge services, universities’ activities did not appear as consuming a large amount of energy or water, as sources of pollution... even in modern economies. So, until the development of the use of the internet and computers by professors and students, universities were not really thinking about sustainability.

## 1.2 Universities as producers

With 20 millions students in Europe at this time, i.e. 8 times more than in 1960, universities had to change their productive process. To welcome so many persons needs infrastructures, organization, coordination and so on. Students come to obtain knowledge, but also degrees, diplomas recognized at a national and an international level... Universities are becoming producers of educational services, updated with the needs of the economy.

This quantitative evolution consumes considerable financial resources. It has three major consequences:

- The free access, traditional in old European universities, is questioned in some countries.

- Each year new buildings, new libraries have to be built to welcome students who wish to study and to live where they study. Universities have to become new partners for building trade, furniture and equipment activities. Procurement services (computers, paper, books...), general services (construction and building maintenance...) have to be defined to limit the budget growth. Management in universities becomes an impelling question, especially for those who have decided to maintain a free, or nearly free access. It will take years to improve the management functions in places where the only important question was in the past years... science. Management is often considered as a secondary which professors are not interested in...

- Universities have to become innovators to be able to answer to so many students’ needs. But in the ’70 and ’80, service activities innovation is a very new theoretical subject. Innovation seems only interesting and efficient for industrial activities.

In 1986, Barras<sup>3</sup> proposed a theory called innovation in services, but Barras’ model is less a theory of innovation in services than a theory of the diffusion within the service sector of technological innovations derived from manufacturing industry (Gallouj and Sundbo<sup>4</sup>). It means that innovation in service activities appeared as only linked to the implementation of the so-called new technologies. It is interesting to observe that at that period, universities were

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<sup>2</sup> Jon Sundbo, RUC, Faiz Gallouj, IFRESI-University of Lille

Paper presented at the CRIC workshop on Innovation and Services 17-18 March 1998, Manchester

<sup>3</sup> Barras, R. Towards a Theory of Innovation in Services, *Research Policy*, 15:161-173 (1986).

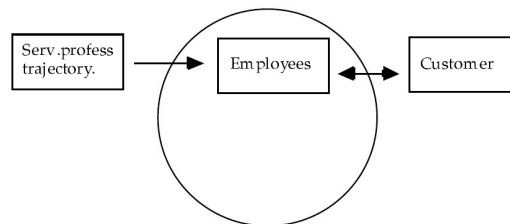
<sup>4</sup> Jon Sundbo, RUC, Faiz Gallouj, IFRESI-University of Lille

Paper presented at the CRIC workshop on Innovation and Services 17-18 March 1998, Manchester

equipped with screens allowing that, at the same time, students sitting in different rooms could listen to, and see, a professor being in another room... because there were too many students to enter in the amphitheatre or in the class room. We can see also overhead projectors allowing to teachers to present a graph visible by many students....

But at the same time, other researchers insist on a new point interesting for an innovation process. Recalling, the role of the client's participation in the service production, Barcet *et al*<sup>5</sup>, Gadrey *et al*<sup>6</sup>.. describe a service professional pattern adapted to knowledge intensive services, where employees, as professors, offers innovative way to work and learn.

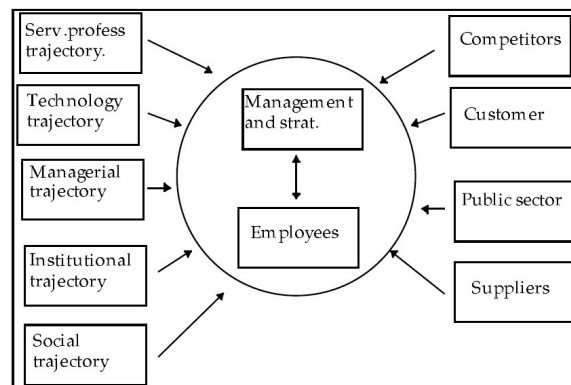
Graph 1 : Service professional pattern



source : Gallouj and Sundbo 1998

The development of new technologies (digitalization, Internet ..) stimulated in the '90 higher education innovations. Many institutions created connected amphitheatres, digitalized platforms, which have helped professors to adopt new teaching methods, involving students at a higher degree. However, the academic community is constituted by a large number of persons and institutions. As a result, it takes a long time to involve all those who play a role in this innovative process. We will use the Gallouj and Sundbo graph to give an image of such a complexity that affects the rhythm of innovation and explains differences from one country to another.

Graph 2 : The organized strategic, innovation service pattern



source : Gallouj et Sundbo 1998

<sup>5</sup> Barcet, A., Bonamy, J., and Mayère, A., *Modernisation et innovation dans les services aux entreprises (modernisation and innovation in business services)*, Report for Commissariat Général du Plan (1987).

<sup>6</sup> Gadrey J., Gallouj F. and Weinstein O. New modes of innovation : how services benefit industry, *International Journal of Service Industry Management*, volume 6(3): 4-16 (1995).

In 2000 with the millennium agenda, and furthermore in 2007 when the UN launches PMRE, some universities, as innovative knowledge service producers, began to build eco-campuses provided with new opportunities for working and learning for students and scholars.

Year after year, the universities are defining their sustainable resource management plan. They focus on procurement and purchasing, travel, energy and buildings, chemical substances and environmental risks, reuse and waste. It is clearly announced by universities who create positions of responsibility in their organizational chart such as: Vice President, General Secretary responsible for the implementation of a sustainable development Policy.....

In France, the art.55 of the Grenelle Law 1 (3 August 2009) affirms that «Higher education institutions will prepare for the 2009 academic year a «Green Plan» for campuses». In 2010, a green plan model was proposed with very precise goals to reach. 10 years after, results are largely different from one university to another ....

### 1.3 Universities and human capacities development

Between 2000 and 2015, In Europe, but also in Japan, Korea and some northern American universities, awareness of the role of universities in sustainable development is emerging.

In 2009, the French universities presidents committee provides that students' competencies on sustainability development have to be improved. In 2013, (July 22) the French law relative to higher education, SD is mentioned in the four university goals: education, culture, international relations and research. In 2012, the UN sustainable development solution network helps universities to operate SD goals throughout the world.

But it seems that the 2015-2030 agenda will be a powerful boost to widen the field of universities SD policies. Nearly all universities who decided to progress on the sustainability question are quoting it. And obviously, they choose among the 17 goals those where they see that they were in the backguard. It seems compulsory, in a competitive market, to announce, at least, that the university is aware of its responsibility in SD this way and that.

First of all, since 1990, the question of global warming has been mainly popularized by the scientific researchers of IPCC. If the panel is now large and really international, the first authors were physicians, chemists, climatologists... coming from very well-known hard science laboratories. Social sciences researchers were not involved in the research teams. It looks like nobody else as enough expertise to understand... Furthermore, if now, IPCC gathers a larger diversity of competencies, the work in common is not really important<sup>7</sup>. So the first faculties and schools who realized they have to develop the expertise of a large group of students were the engineering schools and physics faculties.

For many social sciences professors, at a first glance, it does not appear that SD has something to do with geography, psychology, philosophy, literature ... Even many economists wait for the second decade of the 21<sup>o</sup> century to put a link between global warming and modern capitalism... So, lecturers and researchers should be convinced that the greening of a college involves more than, for example, reducing the consumption of paper. The main role of EMS at a university should be to focus on indirect environmental aspects, for example, to introduce environmental and sustainability issues in courses and research. Why it seems so difficult up to now?

It's not at all a tradition among academics to enlarge their knowledge to very different disciplines. It seems nearly impossible to be at the top if they do not focus their attention,

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<sup>7</sup> [https://www.lemonde.fr/planete/article/2013/09/28/qui-sont-les-scientifiques-qui-ont-redige-le-rapport-du-giec\\_3486067\\_3244.html](https://www.lemonde.fr/planete/article/2013/09/28/qui-sont-les-scientifiques-qui-ont-redige-le-rapport-du-giec_3486067_3244.html), read on 2019 september 30th

readings, and researches out of their main speciality. To become a professor they will compete with distinguished colleagues. If each country has its own professor selection process, it is always a disciplinary selection<sup>8</sup>. So, only a few scholars and researchers decide to cross the disciplinary path. This selective system constitutes a major obstacle to the development of inter-disciplinarity within institutions. But for advanced researchers, there is another obstacle: the publication process. To be published, they will be evaluated by specialists ... and as it is well known now, researchers have to publish or perish... So it seems dangerous to cross the disciplinary path. So it is not surprising that only few professors consider, with conviction, that it is important, to investigate new themes, for new lessons even it takes time.....

We have also to remind that it is complex for many universities, at an institutional level, to initiate and organize an inter-disciplinary education. Faculties have to fulfil national or states obligations, they must comply with a national or international accreditation system. They are not really free to promote new courses in traditional diploma or new curricula. The faculties operate in silos and share neither objectives nor methods.

The survey conducted by the catholic universities<sup>9</sup> federation confirms the interdisciplinary problematic. This survey puts the light on a specific question for these universities. According to « ex corde Ecclesiae<sup>10</sup> », in all these universities catholic ethic has to be studied to obtain a licence degree. As it seems complex to do so, for many lay faculties, it is generally decided to improve professor's knowledge or to leave this question at the good will of teachers.

In 2019 in France, an independent think tank, the Shift Project<sup>11</sup>, conducted a survey, among 34 higher education institutions, about the provision of training in sustainable development. It appears that only 4 institutions have compulsory courses on energy-climate issues. The following graph, published in the report, shows the weakness of universities on that point. The attention seems better in engineering school, as announced, and in high civil servants schools that are in touch with policy makers.

Graph 3 Energy-climate courses in 34 French higher education institutions

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<sup>8</sup> In France, there are 52 sections, for 52 disciplines .....

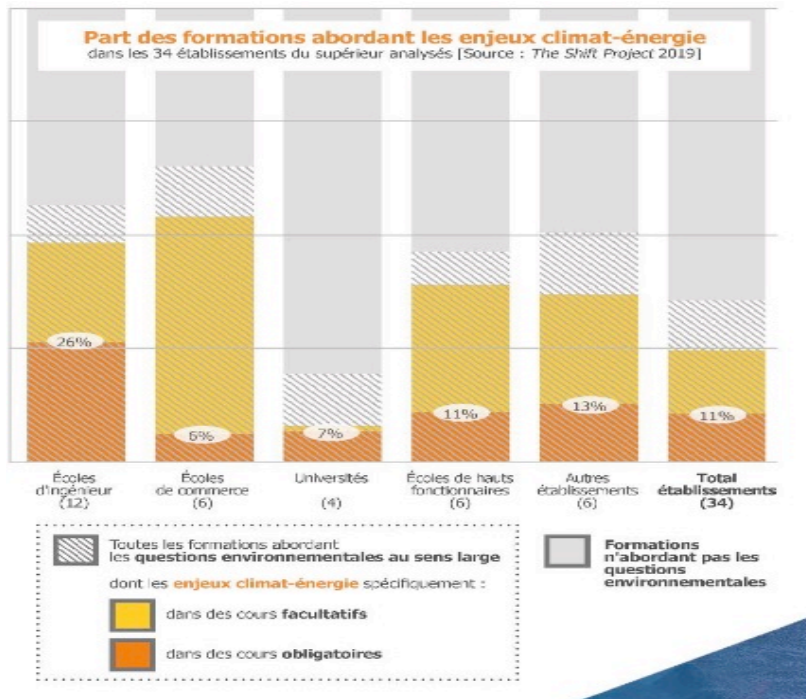
<sup>9</sup> Enquête sur les pratiques et les défis des universités catholiques en matière d'éducation intégrale, d'accompagnement de leurs étudiants, et de réalisation de leur mission universitaire

<sup>10</sup> The education of students is to combine academic and professional development with formation in moral and religious principles and the social teachings of the Church. The programme of studies for each of the various professions is to include an appropriate ethical formation in that profession. Courses in Catholic doctrine are to be made available to all students. » Ex corde Ecclesiae, 1990

<sup>11</sup> [https://theshiftproject.org/wp-content/uploads/2019/03/2019-03-25\\_Rapport\\_Mobiliser-lenseignement-sup%C3%A9rieur-pour-le-climat\\_The-Shift-Project.pdf](https://theshiftproject.org/wp-content/uploads/2019/03/2019-03-25_Rapport_Mobiliser-lenseignement-sup%C3%A9rieur-pour-le-climat_The-Shift-Project.pdf),

read on october 2019 1st





Source : Shift project 2019 report

The awareness of the role of universities in sustainable development has reached a better level. It is no longer only an early bird thought. For a large number of universities, and for many faculties the objective is now to go forward “the principles of global engagement and strong civic responsibility state...to promote sustainable development which is concretised in the environmental policy, through our environmental management system”<sup>12</sup>. However, as service providers, universities are not always aware of their sustainability development responsibility. Furthermore, the question of the innovation service pattern appears as a real obstacle in structures that are not so widely opened on the world.

## 2 Which action plan for sustainable development

As said earlier, in northern Europe, the “early birds” universities have restructured the management team when they decided to be certified ISO 14001 and registered to EMAS. In California, for example, since 2008, universities are helped by Sustainability and SEM Business Services group (SSBS) who serves as the central aggregator of campus sustainability programs for both infrastructure and behavior. In France, the High education law in 2013 is proposing guides. So in 2019, French universities may be able to built strategic plan called for example “Vision 2020”.

But in this volatile, uncertain, complex, ambiguous (VUCA) world, university management teams consider that they lack benchmarks, tools and strategic, operational and financial support to built the systemic and integral management system of their university, to anticipate and find solutions to the huge challenges of our time. It seems difficult to find a consensus at the top level of a large university between the different deans. Is the role of universities to train good citizens or good workers? What does it mean to contribute to the education of the whole person? Many universities are looking for appropriate Key Performance Indicators (KPI).

<sup>12</sup> Action plan for the environmental and sustainable development 2017-2019, University of Gothenburg



Some of our European contacts put the light on the specific situations of their own country. As major countries in the world ( as USA) have rejected the Paris Convention, it seems of no interest, for the policy makers in small European countries, to pursue a reflection or researches on such a subject. For example, professors who were involved in Agenda 21, are no longer able to continue their previous empowerment for both financial and political reasons....

Conversely, university officials are encouraged by their students to develop actions. This is probably why actions based on the 17 Sustainable Development Goals are implemented in universities. We can consider that as a first step of a larger strategy.

## 2.1 Specific actions

Regardless of the level of university strategic thinking on sustainable development issues, there has been a change in management practices. In many universities, environmental issues are taken into account in decision-making and in the reception of student proposals. We could talk about a change in top down and bottom up attitudes.

### 2.1.1 A new top down attitude

For financial and environmental reasons, university officials are wondering about their consumption of water, electricity, heating, paper... These analysis lead to broaden the questions of the maintenance of buildings. These programs find their expression in a change in purchasing policies but also by the launching of actions with students and professors. These analyses also have an impact on building construction or renovation programs. They now incorporate new environmental standards but can go further and announce the establishment of a "green" campus.

Attention to students with disabilities is one of the first areas chosen by universities on the theme of sustainable development. From the improvement of access to the premises (buildings, classrooms...) to the individual support of students (blind students, hearing impaired, etc.), national legislations are often quite precise and coercive on these points<sup>13</sup>.

If, as we shall see below, students may be project leaders, their direct involvement is often limited by the organization of studies. Some universities and countries<sup>14</sup> have decided to boost student engagement regardless of the nature and form of this commitment (social, ethic, environmental...). They get bonus points or references on their diploma.

Social sciences researchers highlight many people's difficulties in changing their behaviors, ways of doing things or in using new tools. To prepare students to live in VUCA world, some universities have introduced a disciplinary extension towards innovation management, design thinking or arts. The objective is to improve agility and leadership capacities.

### 2.1.2 A new bottom up attitude

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<sup>13</sup> Since the 2005 French law about « universities support for students with disabilities », the number of students has increased from 1000 to 30000.

<sup>14</sup> In France, Decree No 2017-962 of 10 May 2017 on the recognition of students' involvement in associative, social or professional life

Youth engagement has changed a lot since 1960. As shown by recent surveys, youth commitments are no longer linked with education or family tradition. If the desire to act is always strong, it does materialize which are perceived as powerful reasons to act. The most important ones are the feeling of being useful, especially in emergency situations. Then, comes the desire to open up. Sustainable problems are urgent enough to catch the students' interest. Solutions to the questions to solve can be found by both engineer students, biologists, philosophers, to be managers ...

In some universities, students create associations to carry out projects, and find partnerships. They are quite attractive and usually the largest campus associations. They constitute a real spur to the implementation for a sustainability development policy. It is common for the university's management team or for professors to rely on those associations to develop projects for the entire university.

Many universities announce they have boosted students' ideas and projects as: frugal innovations<sup>15</sup>, low tech innovations, meetings with climate specialists, organic gardens on the campus, carpooling organization for students or professors, waste collection on campus.... However, students and secondary school pupils, invited in Paris at the education Minister<sup>16</sup>, express how they feel without any knowledge about climate change.

## 2.2 Strategic plan

In parallel with these joint or individual actions, there is, within the academic world, a growing awareness of the specific role of universities in sustainable development. It is expressed by Cecile Renouard in the "Transition campus, domaine des forges" not so far from Paris: "Universities can no longer operate in silos, they must offer interdisciplinary courses"<sup>17</sup>, or by Per Cramer<sup>18</sup> in his 2018 PMRE report: "our mission is to develop knowledge, educate and foster independent thinking for the advancement of organizations, policy and sustainable word".

The university of Gothenburg (school of business, economic and law) concretizes this position in the following two principles. :

“ We will develop the capabilities of students to be the future generators of sustainable value for business and society at large and to work for an inclusive and sustainable global economy

We will incorporate into our academic activities, curricula and organizational practices the values of global social responsibility as portrayed in international activities such as the United Nations Global Compact”.

However, to translate in concrete organizations and strategy such principles is not so easy. Among European universities they are not so many which have set up sustainable strategies, many are only speaking about it. However, some attempts are interesting and may be steps for entry-level universities.

### 2.2.1 First steps

I will take three French examples:

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<sup>15</sup> Frugal innovation is the ability to create more economic and social value using fewer resources.

<sup>16</sup> Le monde 2019/3/25 : « de l'école à l'université, le climat trop peu enseigné »

<sup>17</sup> Chaillou A, 2019, « Vivre et enseigner la transition, genèse d'un campus » *Revue Projet*, n°371, p 79-86

<sup>18</sup> Dean, "school of business, economics and law", Gothenburg University (Sweden)

### -The transition campus

As universities have a silo functioning, to create a transversal curriculum, about sustainable development is complex. Cécile Renouard, ESSEC<sup>19</sup> research director (firms and development) as imagined a “transition campus”. This campus is an experimental one. Is it possible to imagine a training preparing students to all the sustainability dimensions: feeding, moving, self production, waste management, maintenance of old buildings....? Researchers are living together for a while to analyze these different themes. They work with living around persons: farmers, business men, local politics ...

Last year, two 2 months trainings have been proposed, to two engineering schools and one business school. This training was structured in three stages:

- Assessment of current issues (physician)
- Tools to deal with these issues ( philosophy and business)
- What economic model for 2050? (economist)

Students are living on the campus. Such an organization allows more time for discussion between students themselves and professors, and common work. Community life enables young people to discover material tasks they do not know and to link studies and real life.

The major change in student behavior led to the decision to renew the experience with students in political science.

### - Atecopol, a political ecology workshop since October 2018 in Toulouse (France).

The workshop brings together 70 researchers from a wide variety of disciplines and almost all the research institutions of the Toulouse site. They think about the evolution of their job in coherence with an ecological commitment and the techno-scientific myth.

They present academic interventions, published in national and regional media, take part to public debates et prepare training in order to contribute to a fundamental movement co-built with citizens, with the hope of bringing society to a new model.

They consider that this way of doing is an help for universities that are in charge of the training of teachers and students to the ecological transition.

### -The shiftproject.org call<sup>20</sup>

In the continuity of Shift Project’s work on the teaching of the climatic and energy stakes in universities, a call has been proposed to the higher education system’s members on 2019 July 7.

Up to now, the call was signed by 150 school leaders, 1000 teachers and researchers, 300 other professionals, trade union or association leaders and more than 8400 citizens in total.

Some quotations from this call:

“ The recent, massive, unprecedented mobilization of students calls for a profound academic response. Their concern is immense, and it is legitimate. Coping with the runaway exhaustion of resources needs training for the next generation, requires new skills, fields of knowledge, and occupations combined. Energy is everywhere and we have only one planet, so the exit of fossil fuels at every stage of our society concerns and must involve everyone – to build a low-carbon, circular and resilient economy”.

“ No student, whatever his age, must be able to validate a formation in the higher education without to have understood the causes, the consequences of the climatic and worked change, on his level, the identification of possible solutions. The respect of the autonomy of the establishments does not exempt the State to also assume its responsibility,

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<sup>19</sup> ESSEC : Business school founded in 1902, located in Cergy Pontoise, near Paris (France)

<sup>20</sup> <https://theshiftproject.org/article/100-appellent-former-etudiants-climat/>

and to accompany this effort by offering a favorable framework. For the universities and schools, there is urgency to take note of the conclusions of the Intergovernmental Group of Experts on the Evolution of Climate (IGEEC)”.

The 2019 start of the new school year was already the occasion of a first step for some pioneers establishments. They have organized “A back to school climate” (ESCP, INSA Lyon, Écoles Centrales...) : conferences, animations made it possible to start the year under the sign of the climate.

## 2.2.2 Towards a strategy

In 2005 in the Lithuanian capital Vilnius, education and environment Ministries from across the UNECE region (56 countries members) adopted the UNECE Strategy for education for sustainable development (ESD). Its main aim is to encourage countries to integrate ESD into all forms of countries education systems and covers all levels from primary to tertiary, including vocational and adult learning.

However, according to the countries, the way to a sustainable development strategic plan is really different. For some European countries, it is a new legislation that leads to a governorship taking into account sustainability development. For others, the publication of the 8-millennium goals in 2000 will be the booster of a reflexion and some years after a new governance definition.

In France, in 2009, new universities actions are registered in the “ Grenelle environment law”. In 2013, the ESR law specifies that each university has to create a 5° common service to organize sustainability development actions. When it has been done, not so many universities organizations are really operational.

As an example of SD framework, we can look at the Aix Marseille University (France). A 80 pages document can be resumed with this graph



source : Plan vert Aix Marseille university

In northern Europe universities and Californian ones, the sustainability development responsibilities are now integrated in the governorship.

All teachers, researchers and students are involved in reflection, governance and action. In order for the entire faculty to become an actor of change, these universities make available the scientific and technical elements necessary for their own involvement. In addition, numerous links are established with scientific and economic partners to stimulate reflection and encourage the emergence of projects.

As an example of SD framework, we can look at the Gothenburg university's one. Four main areas of responsibilities are described as follow:



Four main areas of responsibilities

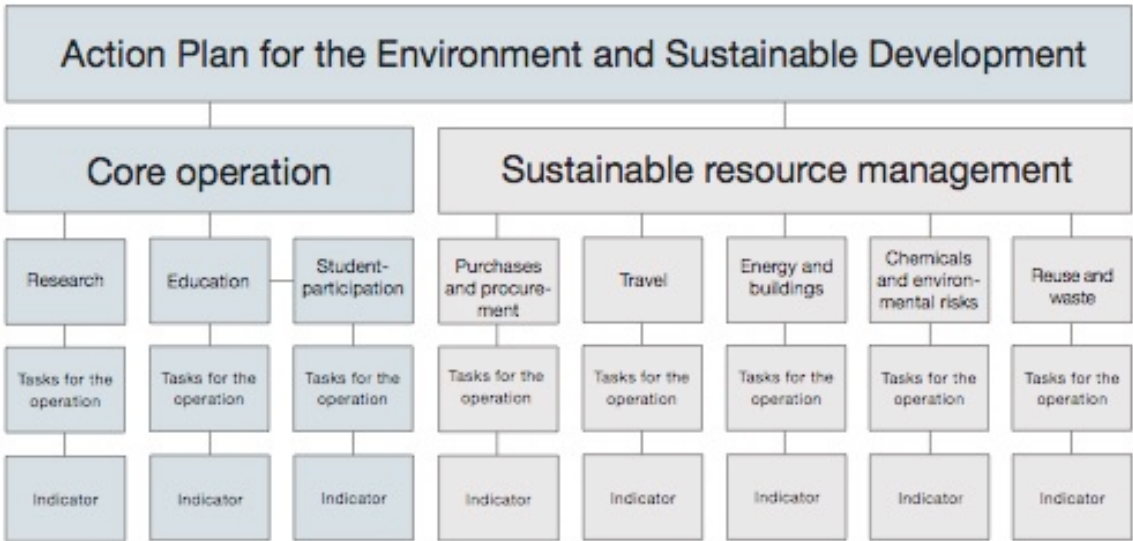
Educational support refers to the importance of offering teaching staff opportunities for professional development. It is considered as a prerequisite for increased integration of the concept of sustainability into courses and degree programs

Strategic support sustainability deals with the dissemination of sustainability research and the involvement in various international networks

Sustainability days: they are mandatory for all program students at bachelor's level. They provide students with basic knowledge and understanding about challenges, responsibilities and solutions.

Sustainable campus refers to the school's work on reducing the environmental footprint as well as the use of the physical environment for enhancing sustainability learning.

These responsibilities are translated in the action plan 2017-2019:



The emphasis on monitoring indicators and regular publication of documents highlights the importance of academic leaders in their responsibility for sustainable development.

## Conclusions

Confidence in technical progress has made it difficult for scientists and citizens alike to become aware of the difficulties arising from climate change. So it took time for academics to realize that their own scientific skills did not exclude them from the appropriation of more transversal knowledge. Now, we have data that allow academics to question certain forms of teaching. Many academics have chosen this path especially in the northern part of Europe and in California.

University education is a service, service of thought, of course. But it is also a job at the service of human persons, because transmission is a trans-generational activity that is not limited to the scientific knowledge. In the catholic universities they are thinking about a “whole person education”. The word "savoir être" now appears in many curricula.

Through the experiments, the advances made in some universities and countries, it seems that this function could be improved by a deep innovation effort. Changes in governance involving more students, experts and companies would boost action plans. The pedagogical approach could be structured in a more transversal way to enable all students to have the necessary skills to cope with the transition period in which we have entered.

These structural and educational innovations appear as ways to enrich universities' strategies for sustainable development.

<sup>ii</sup> Tourneville S, 2018, « Final report, Enquête sur les pratiques et les défis des universités catholiques en matière d'éducation intégrale, d'accompagnement de leurs étudiants, et de réalisation de leur mission universitaire »