

**APPLICATION**

**FOR CONSIDERATION BY THE UNU INSTITUTE OF ADVANCED STUDIES,  
FOR THE ESTABLISHMENT OF**

**RCE BORDEAUX AQUITAINE**

**AS A REGIONAL CENTRE OF EXPERTISE ON EDUCATION  
FOR SUSTAINABLE DEVELOPMENT**

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**CANDIDATE RCE BORDEAUX AQUITAINE**

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## GEOGRAPHICAL SCOPE AND MAPS OF RCE BORDEAUX AQUITAINE

### ➤ Regional characteristics of RCE Bordeaux Aquitaine

This application proposes the establishment of a Regional Centre of Expertise in Education for Sustainable Development (ESD) for Bordeaux, France. The scope of RCE Bordeaux extends beyond its sub-urban limits to include the surrounding cities and constituting an urban community called "Bordeaux Métropole" a diverse geographical region extending on either side of the Garonne river. This area, inscribed in a square of a 50 kms size, consisted of urbanized areas, and on the periphery, agricultural areas (mainly vines) and pine forests. This area includes also most of the university campuses of the Aquitaine region, an international airport with industrial zones and a port for trade and tourism.

### ➤ Location of the Region and geographical scope



Aquitaine region in France



Aquitaine region



Bordeaux Métropole and vicinity

## ➤ Reasons for geographical Scope

Aquitaine is one of the largest region in France with 3.500.000 inhabitants. Its economy is based on primary sector activities (agriculture, forestry and aquaculture), secondary sector and industry (aviation and space industry; agri-food industry; wood sector).

Bordeaux Métropole has some 800.000 inhabitants, mainly city residents, and is made of 28 municipalities the centre of which is constituted by the city of Bordeaux.

Bordeaux is a metropolis, with well-established rail, bus and tram networks within and beyond the city limits. Bordeaux city and Bordeaux Métropole and suburbs have a large urban land area, covering 579,27 km<sup>2</sup> across the 28 administrative municipalities. Bordeaux Métropole is located on the two banks of the river Garonne that gives a very special charm due to the classical architecture of the 17<sup>th</sup> century buildings

The urban, sub-urban and rural areas of Bordeaux Métropole are characterised by a good quality environment, ranked 79 among 4000 French cities attributed to relatively low levels of air and water pollution.

The population of Bordeaux Métropole is 1.100.000 inhabitants or so with a density of 1294 inhabitants/km<sup>2</sup> on average, higher in the main city of Bordeaux and decreasing progressively from the centre towards the periphery where are located some semi-rural areas.

Bordeaux is located close to the European Atlantic coast, in the Southwest of France and in the North of the Aquitaine region. It is around 500 km (310 miles) southwest of Paris. The city is built on a bend of the river Garonne, and is divided into two parts: the right bank to the east and left bank in the west. In Bordeaux, the Garonne River is accessible to ocean liners.

Bordeaux's climate is usually classified as an oceanic one, however, the summers tend to be warmer and rainy and the winters milder than most areas of similar classification.

Bordeaux was founded in 300 BCE by a Celtic tribe and was named Burdigala. Later, the city fell under Roman rule around 60 BC, its importance lying in the commerce of tin and lead towards Rome. Later it became capital of Roman Aquitaine, flourishing especially during the 3rd century. During centuries, Bordeaux was occupied by several invaders (Merovingian in the 6th century, Arabs in the 8th century, Carolingian in the 8th century, etc.) and progressively declined.

From the 12th to the 15th century, Bordeaux regained importance following the marriage of Duchess Eléonore of Aquitaine with the French-speaking Count Henri Plantagenet who became King Henry II of England. Aquitaine became an independent state under Edward, the Black Prince (1362–1372). In 1453, it was annexed by France.

The 18th century was the golden age of Bordeaux. Many downtown buildings (about 5,000), including those on the quays, are from this period. Baron Haussmann a long-time prefect of Bordeaux, used Bordeaux's 18th-century large-scale rebuilding as a model when he was asked by Emperor Napoleon III to transform a still quasi-medieval Paris into a "modern" capital.

Bordeaux is the world's major wine industry capital. It is home to the world's main wine fair, Vinexpo, while the wine economy in the metro area takes in 14.5 billion euros each year. Bordeaux wine has been produced in the region since the 8th century. The historic part of the city is on the UNESCO World Heritage as "an outstanding urban and architectural ensemble" of the 18th century.

Besides the vine industry, Bordeaux Métropole has developed several strong industrial structures linked to research programmes developed at the University. The "Megajoule laser" will be one of the most powerful lasers in the world, allowing fundamental research and the development of the laser and plasma technologies. This project, carried by the French Ministry of Defence, involves an investment of 2 billion euros. The "Road of the lasers", a major project of regional planning, promotes regional investment in optical and laser related industries leading to the Bordeaux area having the most important concentration of optical and laser expertise in Europe.

20,000 people work for the aeronautic industry in Bordeaux. The city has some of the biggest aeronautics companies including Dassault, EADS, Sogerma, Snecma, Thales, SNPE, and others equally important. The Dassault Falcon private jets are built there as well as the military aircraft Rafale and Mirage 2000, the Airbus A380 cockpit and the boosters for the Ariane rocket. Access to the port from the Atlantic is via the Gironde estuary. Almost 9 million tons of goods arrive and leave each year as well as numerous tourists brought by cruise ships.

Tourism is a major industry in Aquitaine with 5,8 millions who have visited Bordeaux in 2014, the wine tourism with plenty of "chateaux" opening their wine cellars and a great number of sandy beaches along the coast during 250 kms.

At the January 2011 census, there were 242.000 inhabitants in the city proper of Bordeaux. Bordeaux is the ninth city of France as regards the population. The majority of the population is French, but there are sizable groups of people from Italy and Spain.

The built-up area has grown for more than a century beyond the municipal borders of Bordeaux due to urban sprawl, so that by the January 2011 census there were 1,140,668 people living in the overall metropolitan area of Bordeaux, only a fifth of whom lived in the city proper.

#### • The Bordeaux Academic world

The Bordeaux University was created by the archbishop Pey Berland in 1441. Nowadays, Bordeaux accommodates approximately 70,000 students on one of the largest campuses of Europe (235 ha) constituting the Community of Higher Institutions of Aquitaine (Comue) with the University of Pau (located in the South of the Aquitaine Region).

The University of Bordeaux comprises four main Higher Education institutions:

- The University of Bordeaux that integrates three main components previously separate: Bordeaux 1 University (Maths, Physical sciences and Technologies); Bordeaux 2 University - Segalen (Medicine and Life sciences); Bordeaux 4 University - Montesquieu (Law, Economy and Management);
- The MONTAIGNE Bordeaux University (Arts, Humanities, Languages, History);
- The Bordeaux Institute of Technology (Bordeaux INP), for engineers;
- The Institute for Political Sciences of Bordeaux.

Furthermore, Bordeaux campus and other locations in Bordeaux Métropole area host numerous public and private schools offering undergraduate and postgraduate programmes: Engineering schools, Business and management schools, and many others

## ➤ Major sustainable development challenges of the RCE Region

All the major sustainable development challenges related to SD illustrate the Region's ambitions of a responsible approach which irrigates the whole of the policy and functioning for making this territory a sustainable and solidary Region.

The Region more particularly regards the following issues:

- the fight against climate change;
- the preservation of biodiversity, environment and resources;
- an essential social cohesion and solidarity between territories and generations;
- a social fulfilment of individuals;
- a development dynamic in accordance with sustainable production and consumption;
- a pragmatic and consensus based approach with a true partnership between all actors;
- a continuous improvement strategy based on a permanent assessment of activities carried out.

Through these main issues, and through many other related ones, the RCE Bordeaux seeks to contributing deeply to the SD policy of the Region and to all its security, economic and development policies related to climate, energy, mobility, biodiversity, country planning, training, economic development, culture, agriculture, innovation, etc.

### • Climate change and consequences

Academic members participating in the RCE Bordeaux Aquitaine project were actively involved in the research programme untitled "Challenge Climate Aquitaine" that resulted in a scientific publication considering the consequences of climate changing in the south-western part of France. Professor Hervé Le Treut, member of IPCC, led this study. This publication maps the situation of a region particularly concerned with climate change.

From this report, and from many others also, all actors became aware that sustainable development is much more than just a programme, or even a trend that will simply go away: it is a necessary and undeniable growing awareness reinforced by the fact that the effects of climate change are already a daily reality for all of us, particularly for the poorest and most vulnerable. This statement was the source of many initiatives involving enterprises, local authorities and citizens in different fields: biodiversity, water-saving economy, protection of natural resources, waste treatment and recycling, sustainable mobility, sustainable tourism, energy efficiency and change of behaviour.

### • Social cohesion and solidarity

Social cohesion and solidarity between territories and generations are taken into account, now more than ever before, since they are equally essential for the implementation of sustainability at the very heart of our region. To achieve this, the region pays particular attention to the development of services crucial to a person's quality of life. To this end, it works actively to alleviate difficulties of some of its territories and to fight against social and spatial disparities (infrastructures, transportation, social support and housing, health, internet access, etc.).

### • Action for employment at regional and local levels

Moreover, in the face of the growing uncertainty of the labour market, the Region has reinforced its actions on initial and continuous training. It helps unemployed to get a job, including disabled workers and the youth in great difficulties. With a focus on the sustainable economic development, these initiatives aim particularly the alignment of forecasting skills and qualification needs of local and regional labour markets and the training provision for job seekers. Policy to support sustainable mobility for all has also been strengthened with alternative measures for business trip: development of telecentre, teleworking and third places.

### • Culture for all

To ensure effective non-discriminatory access to culture, the Region has voluntarily committed itself to developing a cultural economy for the many. Numerous institutions offer various cultural events: scientific events (Cap Sciences, and the Natural Museum History, the Botanical garden), several Museums (Museum of Aquitaine and Museum for modern art CREAC), Music and theatre (Bordeaux Aquitaine Theatre, Bordeaux Auditorium).

### • New economic models

In addition, the development of sustainable production and consumption patterns are strongly and actively supported for creating and supporting new economic models: circular economy, social and solidarity economy, organic farming and short distribution circuits; simultaneously, there is a strong policy in support of innovation and research, particularly concerning green growth. For instance, RECITA (Network for circular economy and innovation in the Aquitaine territories) is focusing on circular economy, creative recycling, reuse of electric and electronic equipment, wood up cycling, pooled management of storm water, etc.

### • Whole institutional approach

Functioning of the different actors of the Bordeaux Aquitaine RCE must be exemplary which implies to put into practice a whole institutional approach policy at every stage of their functioning and at every level of their components.

This whole institutional approach globally refers, apart the United Nations Global Action Programme, to ISO 2600 for instance, and this includes social and economic purchasing policies. Moreover, it is necessary to reinforce a real, transparent and permanent consultation with full public through the existing instances and to develop awareness-raising measures among the population.

Several initiatives have been developed for several years now by local governments and by Higher Education institutions: the city of Bordeaux and the Gironde Department have set up dedicated Agenda 21 whereas Higher Education institutions have implemented the Green campus programme in cooperation with the minister of Education, the minister of environment, the French Agency for environment and energy (ADEME) and the network of French students for sustainable development (REFEDD).

## RCE VISION AND OBJECTIVES

### ➤ Clear and specific RCE vision

RCE Bordeaux seeks to contribute to a necessary changing of behaviour of all actors and individuals by addressing the main and essential key environmental, economic, societal and cultural challenges by developing various and concrete initiatives through education, training and research for SD. These initiatives will apply at local and regional levels, while considering the national and international levels.

The Bordeaux RCE vision is not only dedicated to initial formal educations but has to be seen as a component of the much broader approach of an education for all (EFA) process combined with live long learning (LLL) initiatives for sustainable education – from our youngest to our oldest - in order to create an educational continuum affording everybody the elements to take appropriate decisions in their every day's life, be it public or private.

Long-term as short-term objectives can be summarised in a few words: to develop a global and determined policy aiming at improving everyone's way of life in the city of Bordeaux and in its surrounding areas to approach a more sustainable way of life, with a specific focus on biodiversity, transportation, energy saving and social economy.

RCE Bordeaux Aquitaine and its partners therein engaged, - associations/NGO, local authorities, national bodies, specialized institutions and enterprises, individuals - have all already work in the various sectors of sustainable development. The chosen objectives will try to reinforce their previous actions through an in-depth cooperation that optimizes know-how and resources of each RCE's member.

### ➤ RCE Bordeaux Aquitaine long-term objectives (3 to 5 years)

#### **Project 1:**

#### **Upgrade ESD digital educational resources for teachers/trainers and learners**

*Leading partner: UVED*

Academic actors and their partners have participated in several teaching programmes since the launching of the 2005-2014 UN decade on ESD, including in particular the UNESCO chair on ESD hosted by Bordeaux INP, the digital University on environment and sustainable development – UVED or various specialists from local governments (Bordeaux Métropole, Aquitaine Region), Associations (Graine Aquitaine, Cap Sciences, UNCPIE) or several private enterprises committed in SD (Air France, Veolia, Suez).

Upgrading educational resources and tools to afford teachers and trainers better and more adequate devices to improve education quality and delivery for ESD is an important challenge for everybody. The approach aims at bringing an adequate answer for a more modern education, at developing with School and University case studies and role-playing to afford teachers and trainers concrete examples of practicing sustainable development in everyday life.

Project 1 is partly based on the MOOC untitled "Education and training for ESD" and launched in 2016. This MOOC aims at both teachers/trainers and learners, regardless of their status, and provides a general overview of various aspects and contents of ESD. About 10,000 people followed this MOOC and about 4,500 - who successfully complete the course (eLearning sessions, forums, quizzes) were awarded a certificate. In 2017, this first MOOC will be completed with a second more specialized



MOOC since addressing only teachers and trainers with a view to strengthening their competences and skills for ESD. All registered users of this 6-week online training course will receive a certificate if successful.

Aside these two MOOCs focusing on ESD, there are other MOOCs available on subjects related to sustainable development: biodiversity, circular economy, climate change, renewable energy, waste treatment. All these digital resources are open resources that can be found on UVED's website and on the different websites of RCE's members.

*The two MOOCs on ESD are rescheduled every year and their content is regularly updated. These MOOCs will contribute establish a community of users on ESD and SD, both teachers/trainers and learners. A broad survey will be launched in 2019 in order to learn from the implementation of these two MOOCs and a report disseminated among all stakeholders.*

## **Project 2:**

### **Certificate on SD, DU ISO26000 and continuing vocational training**

*Leading partner: UNESCO chair and Bordeaux INP*

All stakeholders are facing fast-changing realities and remain unsure about how to respond to the expectations of our societies. This project seeks to better meet the needs and expectations of enterprises and local governments in the different fields of environment and sustainable development in order to ensure an adequate answer to these expectations.

The creation of the multidisciplinary undergraduate certificate on sustainable development in 2012 at Bordeaux University enabled training for over 200 people, mainly students involved in an initial education process. This certificate includes 30 hours of interdisciplinary courses and a report on a concrete subject on SD.

However, considering the need for an opening towards a larger audience as obvious and urgent, it was planned to initiatives: 1) to open the certificate to people from the business and local government communities through continuing vocational training; 2) to launch the University diploma on Corporate Social Responsibility (CSR) in reference ISO 26000 to improve a better knowledge and a stronger commitment of all these actors on sustainable development. This diploma is obtained after a five-day training session.

The mode of these two initiatives will proceed in presence teaching with the help of digital resources accessible through the UVESD's website for people requiring complementary knowledge.

*These two initiatives will start on September 2016 and various experts will evaluate the global results in 2019 in order to provide for any relevant adjustments.*

## **Project 3:**

### **Public awareness on SCP**

*Leading partners: Darwin ecosystem and Graine Aquitaine*

This project is meant to increase public awareness of key sustainability issues through the launching of both local and global campaigns aiming at consumers (family units, associations, hotels and resorts, etc.) to afford them specific information regarding sustainable production and consumption in both private and public activities. In the same time, the process aiming at encouraging the creation of forums for consultation bringing together producers and consumers in order to break barriers between these two components/actors of our society could partly reconcile points of view that often appear as divergent. This project will be also developed in reference with the United Nations ten-year

frame programme (10 YFP) on sustainable production and consumption (SPC) implemented by UNEP and following the Marrakech process.

*This project should start in 2017 with a first assessment two years later.*

#### **Project 4: Reconnecting Man and Nature**

*Leading partners: Bordeaux Botanical Garden and "Université démocrate"*

The divide between Man and Nature seems to be becoming stronger day by day. Our project intends to reconnect, to reconcile, Man with Nature, both in urban and rural environments by enabling people to find out how much the abundance and variety of life is part of our natural heritage and how much our way of life has to come back to close-to-nature behaviours. These circumstances provide seniors with the possibility to explain to juniors some values, for instance what is an intangible cultural and natural heritage and why it is necessary for them to pledge to uphold this heritage not just for themselves but also for all of mankind through a global sustainable development approach.

The Bordeaux Botanical Garden and the Bordeaux Natural History Museum regularly perform activities (fieldtrips, visit of biological reserves); on the other hand, our Institute encourages, with the help of students, the creation of partnership between consumers associations and local producers for bulk delivery of vegetables and other food (AMAP) to favour short supply chains with local suppliers and to exclude non-sustainable supply patterns.

Trough public lectures, fieldtrips, joint activities with local producers but also with the help of associations linked to local (Bordeaux Métropole, City of Pessac) and regional authorities, we are going to further develop initiatives closely associating environmental, social and economic components actors to make citizens aware of the role of Nature and how best to use its services and resources with sustainable development in mind.

*The Bordeaux Botanical Garden and the "Université démocrate" have planned to organize in 2020 a demonstration and a rally out, widely open to the public, with representatives of all stakeholders and all generations, in order to demonstrate the close interdependency between Man and nature – supported by examples and evidences – in order to recreate this basic link between Man and Nature and propagate and generalize these behaviours.*

#### **Project 5: The juniors of sustainable development in secondary schools**

*Partners: Educational district of Bordeaux-Aquitaine, Bordeaux Métropole,*

The "Juniors of sustainable development" (JOSD) is an educational setting which put younger generations at the centre of the action and concerns schoolchildren in nursery and primary schools. JOSD, developed by schoolteachers and Bordeaux Métropole, provides educational tools, awareness actions or projects to be acquired in school, accompanying measures for whole institutional approaches on SD and training sessions for teachers on SD.

Focusing on SD fundamental notions – sustainable and sober growth, protection of environment (biodiversity, natural resources and ecosystems), climate changing, social cohesion and human flourishing – JOSD favours the implementation of projects and creating various conditions linked to sustainable development: pedagogical gardens, intergenerational links, impact of over production.

RCE Bordeaux Aquitaine intends to extend J OSD to secondary schools with the help of the academic institutions in order to make the educational approach more concrete and with a better match to our society's expectations. This extension will favour the autonomy of teachers, with due respect for national texts and curricula, and will help children to foster better integration within the society.

*The implementation and the growing in maturity of J OSD should require at least one year and it should start in 2017-2018 with a first assessment one year later.*

## ➤ **RCE Bordeaux Aquitaine short-term objectives (1 to 2 years)**

### **Project 1:**

#### **Installation of the RCE governance**

*Partner: all members of RCE Bordeaux Aquitaine*

Institutionalize the existence of RCE Bordeaux Aquitaine by establishing a dedicated committee consisting in all significant stakeholders is a priority. The role of this committee will be to provide governance and support of RCE Bordeaux Aquitaine through a founding meeting of all representatives of the RCE members in order to work out and officialise the proposed strategy.

This strategy, as presented in this document - will be developed under the direction of project officers responsible of each project and who shall observe the respect of requirements, procedures and timelines for each one.

### **Project 2:**

#### **Developing the RCE website**

*Partner: Aquweb*

A dedicated website is primordial to supply a wealth of information on sustainable development on the benefits of all and make sure that this information be spread out through the different websites of all partners of RCE Bordeaux Aquitaine. This site will also give a description of the RCE Bordeaux Aquitaine, of its members and on present and future actions. Finally, the site will provide a forum for the exchange between the various actors involved

*The site will be set without delay as soon as the RCE is established.*

### **Project 3:**

#### **Public event officialising the RCE Bordeaux Aquitaine**

*Partners: All RCE members*

Aside the implementation of the various initiatives chosen by the board, it will be necessary to create a broad visibility through a public event to be programmed within the 12 month following the creation of the RCE Bordeaux Aquitaine. This event, officialising the launching and the reality of the RCE Bordeaux Aquitaine, will take place on the campus of Bordeaux University with the members of the RCE Bordeaux Aquitaine and a broad public attendance. This event will give us the opportunity to present our short/long term strategy and to gather thoughts, comments, ideas and suggestions from the participants.

*The event will be organized during the year following the creation of the Bordeaux Aquitaine RCE.*

#### **Project 4:** **Side event on SD at Vinexpo 2017**

*Partner: Bordeaux Chamber of Commerce and Industry and Cité mondiale du vin*

Numerous trade fairs and shows occur each year in our region. All these local, national and international sporting, cultural, economic and musical events provide us with the opportunity to organize dedicated side events presenting and sharing what sustainable development is and what are the most promising paths to adopt it by following participatory principles.

Bordeaux is one of the most important regions in the world for the production of wine but this production is often combined with an intensive use of pesticides that are both harmful for man and nature. The Bordeaux Wine Fair (Vinexpo) with wine producers and exhibitors is a good opportunity to organize a side event stressing a more sustainable strategy or the agricultural approaches through a limited use of chemicals.

*The Bordeaux CCI, the Cité Mondiale du Vin and the Chamber of Agriculture will provide help in the organisation of a side event during the next Vinexpo in June 2017.*

**All these projects, intended to develop and/or reinforce education and training activities aimed at different audiences – initial and continuous learners – and under different formats and approaches - classroom, blended courses, eLearning, lectures – may include the development of digital educational resources free of charge at disposal of teachers, trainers, or any other users regardless of their status, using a dedicated and integrated platform developed by RCE Bordeaux Aquitaine in cooperation with RCE's other members.**

#### **➤ Strategies to achieve visions and objectives**

The need of the creation of RCE Bordeaux Aquitaine came about from various discussions and interrogations that occurred with persons responsible from several RCE members of the UNECE steering committee of ESD in Geneva and, more recently, during the RCE conference in Okayama in November 2014.

During the Okayama conference I realized that only a few RCE existed in France and in the French speaking countries compared to the situation in the other parts of the world. This situation was clearly an obstacle to the development of the implementation of sustainable development in our society as RCE are aimed to build bridges and enhanced cooperation between the various actors working in the numerous fields of sustainable development and education, training and research for sustainable development.

As a professor in charge of the francophone chair on education, training and research in sustainable development which welcomes 35 Higher Education institutions from 22 countries, I met often the opportunity to have exchanges with those who are responsible of these HEI. These presidents and rectors, mainly from developing countries, are looking for ways to develop concrete and efficient partnership and cooperation between the academic world and the other stakeholders in order to afford adequate answers to our societies' expectations.

Three weeks ago, the Bordeaux UNESCO chair organized an international conference that brought together academic representative from 22 countries, and different private and public decision makers belonging to enterprises, local government, francophone bodies, associations and NGO, students representatives. During this conference, one workshop was dedicated to RCE and to the way in which RCE could bring expected answers and solutions to the implementation of sustainable development

through ESD.

The workshop has led the plenary assembly of the conference to the conclusion that it was necessary and urgent to call for the creation of several RCE in different parts of the Francophone world. If agreed by UNU, these RCE would be created in several major universities representing the different geographic regions of Africa, Maghreb, Middle East, Indian Ocean, Asia, and Central America. All participants in this conference, cited above, gave their unanimous consent.

Immediately after the conference, I set up a multi-stakeholder task force to produce recommendations for the creation of the Bordeaux RCE and to seek the commitment of the various partners that would contribute to the creation and the functioning of the RCE. Through the engagement of these different stakeholders, I took the decision to ask the creation of RCE Bordeaux Aquitaine and to submit the application for this creation to UNU/Institute for Advances Studies.

## GOVERNANCE AND MANAGEMENT

### ➤ Evidence of mobilization process to develop RCE

Several strong assets are in favour of creating this RCE Bordeaux Aquitaine, in particular:

- the Aquitaine region, with various and rich economical, social, environmental, historical and cultural features;
- local and regional actors deeply involved in sustainable development and education for sustainable development;
- flourishing academic institutions for which sustainable development is becoming a priority both in education and research programs;
- an active UNESCO chair on ESD and a well-known digital Université on environment and sustainable development (UVED).

All these assets have been analysed during the international conference of the UNESCO chair, in March 2016, and taken into account during the task force meeting organized as a follow up of this conference to formalize a global commitment of French and French speaking participants to contribute to the creation of this RCE. This commitment resulted from the recognition by all stakeholders that Bordeaux and that Aquitaine region has been developing active initiatives on ESD for many years as a result of a strong and perennial partnership among all relevant actors (presented below) and that it was time to manifest this commitment.

#### *- At University's level:*

Aside from the fact that the UNESCO chair on ESD is implemented in Bordeaux since 2010 and was renewed in 2015 following a good review of its results, the process is strengthened by the existence of structures linking together academic institutions, scientific and research institutes, industry and administrative authorities at all levels. Furthermore, the signatory of this application is president of the French digital university on environment and sustainable development.

#### *- At local authority's level:*

The Bordeaux Métropole and the Aquitaine Region governments, and all the various entities of their constituent parts (municipalities, associations and other linked bodies) are deeply involved both in their own strategies and in complementary strategies aiming at developing initiatives in the different fields of education, training and research on SD. These strategies both concern individuals, socio-economical bodies, school and university.

Their competences are complementary and are translated in concrete terms into funding for production of digital resources on sustainable development, organization of international conferences and events, agenda 21 and public awareness on a wide range of subjects like biodiversity and climate change, agreements with developing countries, creation of green belts, etc.

#### *- At company level:*

Whether public or private sector, several regional, national and international enterprises located in Bordeaux have committed into sustainable development and more particularly in the fields of agriculture, forestry, wine industry, renewable energy, renovated habitat and positive-energy housing.

*- At NGO's and associations' level:*

Bordeaux Métropole and the Aquitaine Region have several important associations involved in environmental and sustainable development activities targeting all public and in particular young people in school or outside the school.

All these actors will contribute, collectively or individually, to develop notable initiatives relevant to the objectives of ESD both in the formal, informal and informal sides. Members of the academic team have been involved, in partnership with other stakeholders, in several projects related to education, training and research. It is with all this in mind that we trust that this RCE will contribute significantly to the implementation of SD in our regional society and beyond.

### ➤ **Identification of key institutions/organizations**

- *Higher education and research:*

- Bordeaux Institute of Technology
- UVED (French digital University on Environment and Sustainable Development)
- Bordeaux University
- INRA (National Institute for agronomic research)
- National School for Architecture and Urbanism
- National Museum of Natural History
- ENS- École Normale Supérieure de Cachan
- ESPE, Clermont-Ferrand University

- *Primary and secondary education*

- Aquitaine School inspectorate

- *Local and regional governments*

- Aquitaine Region
- Bordeaux Métropole
- Pessac municipality
- CESER Aquitaine (Regional Economical, Social and Environmental Council)

- *Local partnerships, associations and foundations*

- GRAINE Aquitaine
- UNCPPIE Aquitaine
- DARWIN Ecosystème
- CAP Sciences
- CREAQ
- UTL – Université du temps libre (Free Time University)
- Bordeaux University Foundation
- Bordeaux Botanical Garden

- *National Institutions*

- ADEME Aquitaine (National Agency for Environment and Energy)

- *Companies and private sector*

- EDF (Electricity company)
- SUEZ-ENGIE (water, energy, waste)
- Transport Bordeaux Métropole – TBM (Bus, Tramway)

- *International Bodies*

- UNESCO (Bordeaux UNESCO chair "Education, training and research for Sustainable development).
- AUF (Francophone University Agency).
- OIF (International Organisation for Francophonie)

## ➤ **Governance/management structure of the RCE Bordeaux Aquitaine**

RCE Bordeaux Aquitaine will be centrally managed and coordinated by Bordeaux Polytechnic Institute (Bordeaux INP) that will provide office and its day-to-day functioning and the secretariat. A professor belonging to Bordeaux INP, the structure hosting the RCE Bordeaux Aquitaine and providing the basic functioning, will chair the board of Bordeaux INP. In a first time, Professor Michel RICARD, who has been designated by the DG of Bordeaux INP, will chair the committee. Later, since the installation of the RCE's committee, a director will be elected by the RCE committee to assist the chairperson and will have the responsibility for the implementation and the follow up of the RCE's projects.

The RCE committee will provide the governance. This committee will be made up of at least one person acting as a representative of the different institutions involved (*cf.* list of members) with overall coordination of the chair of the committee.

The main role of the Committee will be the general oversight of the strategy of the RCE, the search for external funding, the proposal/choice of projects and the designation of projects officers, the answering to call for tender and the assessment and reporting of activities.

The committee will meet on a regular basis, at least quarterly and will monitor and support the implementation of the projects and their follow up. This committee will provide regular feedback to all stakeholders and will collect proposals for improvement and the launching of new projects.

In a more general manner, the committee will be responsible for ensuring that the aims, objectives and projects are completed within the time and funds allowed. This committee will have to report to the UNU in accordance with prescribed formats and schedules

### **Short-term, long-term resource arrangements including financial ones**

As stated earlier on, the basic functioning of RCE Bordeaux – including the functioning of the website - will be ensured by Bordeaux INP and one of its components, the Graduate School of Engineers, ENS.EGID, in charge of education and training relating to natural resources and sustainable development.

In addition to Bordeaux INP, Bordeaux Métropole and the Aquitaine Region, the other members of the committee have committed to participate in the project depending on their particularities in the different fields of SD and ESD:

- education, training, awareness and mobilization on SD:  
All members have committed
- fund rising:  
Bordeaux INP and ENSEGID, Region Aquitaine and Bordeaux Métropole, Bordeaux University Foundation, EDF and SUEZ-ENGIE, ADEME, AUF, OIF
- Pedagogical research  
Bordeaux INP & ENSEGID, UVED, ADEME, Graine Aquitaine, ENS Cachan, ESPE Clermont Ferrand, UNCPiE, AUF, OIF.

In sum, basic functioning, financial management and personal resources are mainly provided by Bordeaux Institute of Technology and by the local governments; furthermore, complimentary resources will be generated in relation with specific projects and calls for tender.



## ➤ Composition of the committee

<b>Key Institutions/organizations</b>	<b>Representative</b>	<b>Title/Fonction</b>
<b>• Higher education and research:</b>		
Bordeaux Institute of Technology	François CANSELL	Pr, DG Bordeaux INP
UVED digital University on Environment and SD	Delphine POMMERAY	Dr, director
University of Bordeaux	François SZTARK	Pr, Vice president
INRA National Institute for agronomic research	Benoit FAUCONNEAU	Dr, Nutrition & Metabolism
National School for Architecture and Urbanism	tbd	
National Museum of Natural History	Nathalie MEMOIRE	Director
ENS- Ecole Normale Supérieure de Cachan	Jean-Marc LANGE	Pr, Digital resources on ESD
ESPE de Clermont-Ferrand	Didier MULNET	Dr, Advisor for ESD and SD
<b>• Primary and secondary education</b>		
Aquitaine School inspectorate	tbd	
<b>• Local and regional governments</b>		
Aquitaine Region	Béatrice CHASSAING	SD Regional Programme Advisor
Bordeaux Métropole	Patrick FAUCHER	Dr, Director SD
Pessac municipality	Jeremy LANDREAU	Local Programme Advisor for SD
CESER Aquitaine's Economical, Social, Environmental Council	Alex RECEVEAU	Member of CESER
<b>• Local partnerships, associations and foundations</b>		
GRAINE Aquitaine	Hervé CAZENABE	Dr, director
UNCPIE Aquitaine	Christian MAGNE	Regional director
DARWIN Ecosystème	Jean-Marc GANCILLE	Head of ecological transition
CAP Sciences	Bernard ALAUX	Director
CREAQ	Dominique PROST	Chair
Université démocrate	Géraldine GOULINET	Dr, SD & communication advisor
UTL – Université du temps libre (Free Time University)	tbd	
Bordeaux University Foundation	Cathelle BOUSQUET	Dr, field officer
Bordeaux Botanical Garden	Patrick RICHARD	Dr, Director
<b>• National Institutions</b>		
ADEME Aquitaine	Lionel POITEVIN	Regional director
<b>• Companies and private sector</b>		
EDF (Electricity company)	tbd	
SUEZ-ENGIE (water, energy, waste)	tbd	
Transport Bordeaux Métropole – TBM (Bus, Tramway)	tbd	
Bordeaux Chamber of Commerce and Industry	Anne WALRYCK	Director
<b>• International Bodies</b>		
UNESCO chair "Education, training and research for SD	Michel RICARD	Pr, chair
AUF (Francophone University Agency).	Emile TANAWA	Dr, Vice-rector
OIF (International Organisation for Francophonie)	Lena WATT	Youth training and SD

## COLLABORATION

### ➤ Collaboration among regional/local stakeholders

Bordeaux INP, one of the five Bordeaux Universities, will ensure the central role in welcoming and supporting Bordeaux RCE while also overseeing its functioning. This role will be greatly facilitated by the fact that most committee members know each other, as they are already involved in various cooperation programmes on education, training and research. The regular meetings of the committee will offer the opportunity to update its functioning and to improve both internal and external coordination if necessary.

Moreover, the Bordeaux UNESCO chair is also cooperating with all committee members, whether for the purpose of education and research, public awareness or international cooperation with different actors of ESD. These various activities are established at regional, national and international levels and ensuring the quality of the teaching and research activities conducted in Bordeaux.

On this basis it appears that the collaboration among stakeholders should be quite easy to set up given the fact that all of them are convinced that a full and transparent cooperation is the basis for success, particularly in the case of sustainable development. Nevertheless, more attention will be paid to the project including senior citizens when most of the projects are mainly targeting juniors and too often forgetting this important component of our societies, especially in developed countries.

### ➤ Involvement of higher education institution, schools as well as non-formal and informal education stakeholders

The institution in charge of this dossier, Bordeaux INP, and all the other academic institution established on the Bordeaux campus, have committed in the creation and functioning of Bordeaux RCE as other education stakeholders during the last conference on ESD in March. The other non-formal and informal education stakeholders have done the same in the same circumstances.

The list of these stakeholders is specified on pages 15 and 16 of this application.

### ➤ Involvement of stakeholders from different sectors apart educational institutes

Since two decades, scientists in charge of education, training and research at Bordeaux University have developed strong cooperation with all stakeholders in order to bring adequate answers to their expectations in the different fields of environment and sustainable development.

In 2005, at the launch of the UN Decade, ESD shifted from a quite informal and unorganized strategy to a more conceptualized and integrated form with the development of very concrete partnership between University, local governments and civil society. At our national level, the development of Agenda 21, the yearly governmental conference on environment, the launching of the national digital policy, the COP 21 in Paris 2015, are tangible signs that legitimize and reinforce previous education and research actions on sustainable development.

At our regional level, all these advances could not have been possible without the active cooperation of all the stakeholders participating in the RCE Bordeaux Aquitaine in answering rapidly, fully and correctly

to our requests. The projects undertaken during these enhanced cooperation have been extremely positive both for the whole group of stakeholders and for each of its components and, beyond, for the entire community.

There is no doubt that the creation of the RCE Bordeaux Aquitaine will afford a supplementary energy to a process that is already well engaged and where the main stakeholders are Bordeaux INP, the city of Bordeaux with the personal investment of his mayor Alain Juppé, the Aquitaine Region, and several very important author participants like the Bordeaux Botanical Garden, Cap Sciences, Graine Aquitaine or UNCPiE.

These members have all the particularity to work and exchange with their public, in different ways according to their specificity, but always with the same key concern: listen to them carefully in order to better meet their expectation.

For these reasons, I am very confident in our capability to create and to implement a Regional Centre for Expertise for ESD as a part of a comprehensive and integrative policy of the United Nation University. We do hope that our application will receive a positive evaluation and that we will kick-start our programme as soon as possible.

## ON-GOING AND PLANNED ACTIVITIES

### ➤ On-going activities

All the members involved in the creation of RCE are developing initiatives on ESD/SD either on their own or through multipartite cooperation. These activities can be distributed into several themes, including:

- **production of free digital (open) resources** for initial and continuous training relating to environment and SD (UVED) and all French and Francophone experts acting within UVED's framework);
- **public education and awareness activities** realized by associations (GRAINE Aquitaine, UNCPiE, Maison écocitoyenne, Cap Sciences) under agreement with school hierarchy;
- **a better connection and complementarity** between initiatives on ESD conducted in (formal initial education) and outside the classroom (informal and non formal education);
- **applied research programmes** on climate change, SCP, saving energy, green growth and circular economy, sustainable city, (Bordeaux Universities, ADEME, local government, NGO and associations) .
- **the interdisciplinary certificate on SD** and the **University diploma on ISO 26000** for initial education for students and vocational training for local government staff and companies.

### ➤ Planned activities

These activities refer to several regional, national and international programmes as proposed by ministries, international organizations, United Nations (UNESCO, UNU, UNEP), Francophone institutions and other partners (associations, NGOs, companies, foundations).

Five main activities have been identified as one of the adequate answers that Bordeaux RCE could bring to enrich the process of SD implementation via education, training and awareness.

#### - **The production of free educational digital resources**

With the development of mobile devices, everybody is participating in different networks allowing them to access a bulk of data on all themes dealing with sustainable development. The information available on website often lacks scientific validation and update.

With the help of scientific experts working under the auspices of academic institutions (Bordeaux INP and UVED, AUF and OIF, private companies specialized in SD themes), it is planned to update five MOOCs produced during the last 18 months (circular economy, biodiversity, climate change and mitigation, ESD, energy transition) and to produce three new MOOCs (management of water resources; health and environment; management of common property).

These digital resources will be available as Open Educational Resources for teachers and trainers as well as for others who are interested in this subject. These resources will be accessed through several dedicated digital platforms but also through a dedicated website called canal-UVED (channel UVED) which is a component of canal-U (channel University).

#### - **The European week for SD**

The European week for SD gives the opportunity to recall and promote good practices in SD. This week is under the auspices of both the French ministry of education and the ministry of environment, sustainable development and energy.

This European week will give us the opportunity to participate in various activities aiming at urging all actors to the promotion of sustainable development in their personal life as in their professional life. Bordeaux RCE plans to participate in this week through the contribution of several main actors involved in this type of event. In addition to institutional stakeholders of Higher education and school education, Bordeaux RCE would work with Bordeaux Métropole and the three associations mainly usually involved in this type of event (GRAINE Aquitaine, UNCPiE, Cap Sciences).

RCE Bordeaux Aquitaine should participate in the 2017 week for sustainable development with a focus on climate change with reference to the COP 22 in Marrakech 2016. The programme of the week will be announced on our website.

#### ***- The promotion for a positive energy territory for a green growth***

The positive energy territory concept has its roots in the commitment of local authorities to develop a global energy strategy targeting energy transition alongside local development. To create a Positive Energy Territory, local authorities must combine a range of different initiatives in terms of energy efficiency, lower energy use, the decentralised generation of renewable energy and the optimisation of local resources. These initiatives may be built around a range of different projects to produce green renewable energy and to improve quality of life.

RCE Bordeaux Aquitaine plans to partner with ENGIE, leader in this field and member of the committee, to contribute in the implementation of Positive Energy Territory projects in cooperation with ADEME, local authorities. RCE would prepare a strategy and a precise roadmap in two phases:

- to establish an up-to-date assessment to gain a precise understanding of what is the regional status of this sector knowing that the region has a strong potential in terms of photovoltaic generation and hydrokinetic power;
- to develop a communication campaign for users who are often facing a situation for which they are not prepared and resolutions that do not enjoy a consensus support.

The role of Bordeaux RCE would mainly consist in participating in an information campaign within the next months to help the transition toward a carbon-free energy society and a green growth.

#### ***- A dedicated certificate on SD for local and regional administrations***

The certificate on SD created in 2014 for undergraduate students will be improved to offer a digital version for e-learners and develop specific training sessions for local and regional administrations.

These two improvements have become necessary with heavy demand from students in the initial formation stream (and the lack of availability of qualified teachers in interdisciplinary teaching), but also with the demand coming from the continuing education with a special mention for local and regional administration.

These two improvements of the certificate should be operative at the beginning of the next academic year, in September 2016.

#### ***- The creation of the University Diploma on ISO26000 and the social corporate responsibility CSR***

Since 2 years, we are working on the creation of the University diploma on corporate social responsibility with reference to ISO 26000. This project involves several interveners in different academic disciplines (law, philosophy, environment) from Bordeaux University, private school for management (Kedge), local administration and AFNOR (the French national organization for standardization), and representative from different sectors.

The main difficulty we encountered in the preparation of this diploma was mainly due to the fact that the Academic world is not accustomed to apply an interdisciplinary approach and is sometimes reticent to implement actions on SD with external partners. In these circumstances our project was finally seen as an efficient way of building bridges between different stakeholders to develop a transversal approach while offering an adequate answer to a recognized and specific need.

Consequently, this Diploma has been validated by the University's board and will address Initial and continuing education learners. It is planned to start during the next academic year.

### ➤ **Transformative education component**

The Transformative learning theory says that the process of "perspective transformation" has three dimensions: psychological (changes in understanding of the self), convictional (revision of belief systems), and behavioural (changes in lifestyle).

The RCE project is not able to meet the need of the two first dimensions given that it is mainly the role of organisms in charge of the training of teachers and trainers and operated by educational specialist (didactical matters) and philosophers; however, behavioural changes resulting from trans disciplinary approaches providing knowledge and concrete skills are fully in fields of RCE competencies.

HIE have made slow progress in the implementation of the 2005-2014 UN Decade for ESD. This is mainly due to a number of barriers such as limited staff awareness and expertise in ESD, overcrowded curricula, lack of courses on SD and lack of diversity in the teaching and assessment methodologies employed in higher education. The Strategy for Infusing sustainability in curricula, pedagogy, research and general practice of Bordeaux and its connected communities is a proposed solution to some of these issues.

RCE Bordeaux Aquitaine's project is to transform lives and societies through education, training and awareness by developing creative, analytical, enterprising and socially-responsible citizens; by creating and translating knowledge to address major global challenges; by leading public debate and providing critical analysis on areas of societal importance; and by engaging with enterprise for the benefit of our students, our region and the wider economy. RCE Bordeaux Aquitaine is also committed to acting as an agent for change in its local community, particularly in terms of addressing issues of access and inequality in education for those experiencing socio-economic disadvantage, and/ or those marginalized in society.

### ➤ **Research and development**

The capacity building of sustainability within research units and across connected communities recognizes the diversity of internal expertise in researching sustainability, and that the potential impact and influence of RCE extends beyond the physical boundaries of its campus. It requires mapping of sustainability-related research through the strengthening connections between RCE and the community of its partners in order to bring appropriate answers through sustainability-related research and other initiatives.

During the last five years, with the help of Bordeaux UNESCO chair and Bordeaux INP, were established several designated research centres focusing on SD related themes: green technology, waste treatment, protection of natural resources, climate change, psycho-sociology of environment, health and environment, circular economy, digital resources, pedagogy, etc. Most of these research programs were developed under public-private- civil society partnerships at regional, national and international levels.

The creation of RCE Bordeaux Aquitaine will obviously enhance this strategy and give to all stakeholders to foster a better cooperation by offering strong incentives to engage new sustainability-related initiatives.

## ➤ **Monitoring and Evaluation**

Monitoring and evaluation are the two parts of a process that helps improve performance and achieve results. Its goal is to improve current and future management of outputs, outcomes and impact. It is mainly used to assess the performance of projects and to establish links between present and future actions.

The credibility of assessments depends to a large extent on the manner in which monitoring and evaluation is conducted. To assess performance, it is necessary to select, before the implementation of the project, indicators, which will permit to rate the targeted outputs and outcomes. An outcome indicator has two components: the baseline, which is the situation before the project begins, and the target, which is the expected situation at the end of the project.

These two complimentary processes are borne by each officer in charge of the project, as they have to follow it through from beginning to end.

### • **Monitoring**

Monitoring is a periodically recurring task already beginning in the planning stage of a project. Monitoring allows results, processes and experiences to be documented and used as a basis to steer decision-making and learning processes. Monitoring is checking progress against plans. The data acquired through monitoring is used for evaluation. This report will be as detailed as possible and will provide comprehensive and concrete word packages that highlight projected milestones and expected deliverables.

The RCE's committee, with the help of the various project officers, will systematically implement monitoring schemes to assess the effectiveness of on going projects through a systematic and routine collection of information for four main purposes:

- to learn from experiences to improve practices and activities in the future;
- to have internal and external accountability of the resources used and the results obtained;
- to take informed decisions on the future of the initiative;
- to promote empowerment of beneficiaries of the initiative.

In order to realize a real and efficient procedure, it is intended to carry out meeting of the committee every three months to assess the projects progresses and to send a report to each RCE members. All this quarterly reports will be reviewed at the annual meeting welcoming all the RCE stakeholders.

### • **Evaluation**

Evaluation of deliverables will be assessed in order to isolate errors not to repeat them and to underline and promote the successful mechanisms for current and future projects. Evaluation will be also conducted to verify that the donated funds are being well managed and transparently spent. The RCE committee will designate the evaluation team and taking into account the necessity to explore both the financial and the scientific approaches.

Evaluations should help to draw conclusions about five main aspects of the project: relevance, effectiveness, efficiency, impact, and sustainability. Information gathered in relation to these aspects during the monitoring process provides the basis for the evaluative analysis.

Evaluation is realized with the help of Indicators or set of indicators that are commonly developed and used to help policymaking and to assess the results of any action, particularly in the fields of sustainable development and education for sustainable development.

ESD indicators development needs to involve stakeholders in a multi-stakeholder process about the definition of the indicator, its function and approaches, the language associated with an indicator framework. Indicators can also be used to encourage the development of applied and pedagogical research.

The United Nations Economic Commission for Europe (UNECE) has concluded the most substantial ESD indicators up to now in reference to the 2005-2014 UN Decade on education for sustainable development (DESD), with four types of indicators ranging from initial measures on governance to possible effects in society and referring to a large type of activities. Some of these indicators will be used, combined with more specific indicators used by the different stakeholders acting in the RCE's framework.

As a development framework, six objectives have been determined that are explicitly oriented towards a form of monitoring that can be apply to any initiative developed in the RCE's frame:

- ensure that policy, regulatory and operational framework support ESD;
- promote ESD through formal, non-formal and informal learning;
- equip teachers and trainers with the competence to include SD in their project;
- ensure that adequate tools and materials for ESD are accessible;
- promote research and development on ESD;
- strengthen cooperation on ESD at all levels within all the stakeholders.



## ACTION PLAN 2016-2020

This action plan is a preliminary outline of the projects that could be decided since the RCE's inception. This plan does not contain all actions described in the chapter "On-going and planned activities" because the committee never met and because its members are waiting for a formal decision from UNU/IAS.

<i>Title of the project</i>	2016		2017		2018	2019	2020
Installation of the committee and adoption of the strategy		last quarter					
Creation of the website		last quarter					
Public event officialising the RCE Bordeaux Aquitaine				last quarter			
Side event on SD at Vinexpo 2017			june 2017				
Upgrade ESD digital educational resources for teachers/trainers and learners		MOOC 1	MOOC 1 & MOOC 2		MOOC 1 & MOOC 2	MOOC 1 & MOOC 2 Assessment	MOOC 1' & MOOC 2' updated
Certificate on SD, DU Iso 26000 and continuing vocational training		Certificate on SD	Certificate on SD DU Iso 26000		Certificate on SD DU Iso 26000	Certificate on SD DU Iso 26000 Assessment	updated
Public awareness on SCP			Public awareness on SCP		Public awareness on SCP	Public awareness on SCP Assessment	Public awareness on SCP
Reconnecting Man & Nature			Reconnecting Man & Nature		Reconnecting Man & Nature	Reconnecting Man & Nature	Reconnecting Man & Nature Public event & assessment
Juniors of SD in secondary schools				Juniors of SD in secondary schools	Juniors of SD in secondary schools	Juniors of SD in secondary schools Assessment	Juniors of SD in secondary schools

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