



EU-CIRCLE

A pan-European framework
for strengthening Critical
Infrastructure resilience to
climate change

D9.4 Report on Stakeholder Advisory Group Activities

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Statement

This deliverable- following the D9.3 [Establishment of project SAG]- describes the EU-CIRCLE Stakeholders Advisory Group (SAG), its current members and role in the framework of the project and the collected SAG activities, during the project life-time.

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	Name	Partner	Date
From	Aggeliki Demertzi	NCSR	26/09/2018
Reviewer			
Reviewer			
For delivery	Athanasios Sfetsos	NCSR	30/9/2018

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Executive Summary

The International Stakeholder Advisory Group established within the EU-CIRCLE project. The primary role of the group is to provide regular and meaningful input and ensure, as far as practicable, that the project objectives, activities and outcomes are communicated to the project's scientific and policy target audience :

- a) Critical infrastructures national authorities
- b) Critical infrastructure owners and operators
- c) National and regional decision makers and funding authorities
- d) Climate scientists
- e) Related scientific community

The Stakeholder Advisory Group has been identified comprising of members stemming from all identified user groups dealing with Critical Infrastructure Resilience, Climatology and Natural Hazards Research. Their envisaged contribution can be summarized in the following three key objectives:

- ✓ Participate and contribute, to meetings with the EU-CIRCLE consortium to improve knowledge on present status and needs of the Critical Infrastructure Protection at national and international level.
- ✓ Assess, comment, prioritise and supplement interim findings and final results of the project.
- ✓ Attend and actively participate in related workshops and in the Final Conference, with all expenses covered by the Consortium.

In the present deliverable activities of the members of Stakeholder Advisory Group are reported.

During the life-time of the project members of SAG participated actively in many project meetings, providing advisory role.



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1 Introduction

The International Stakeholder Advisory Group established within the EU-CIRCLE project. The SAG consists of stakeholders that do not form part of the project consortium. It is considered independent of the consortium and the donor (European Commission). The overarching aim is for this group to keep some distance from the project to enable objective and constructive advice to improve its functioning and the quality of its outputs. The expected main contribution the SAG is to provide regular and meaningful input and ensure, as far as practicable, that the project objectives, activities and outcomes are communicated to the project's scientific and policy target audience:

- a) Critical infrastructures national authorities,
- b) Critical infrastructure owners and operators
- c) National and regional decision makers and funding authorities.
- d) Climate scientists
- e) Related scientific community

An initial list of members to the Stakeholders Advisory Group have already committed through a Letter of Support (11 organizations). This list has been expanded following discussions and potential interest from international organizations, and the list is expected to grow as the project evolves.

The main objective for the members of the Advisory Board to participate during plenary meetings in order to be in contact and monitor the progress of the project. Their envisaged contribution can be summarized in the following three objectives:

- ✓ Participate and contribute, to meetings with the EU-CIRCLE consortium to improve knowledge on present status and needs of the Critical Infrastructure Protection at national and international level. As of M1, in the kick-off meeting, Mr Graeme Ridell of the University of Adelaide participated and this proved an excellent opportunity to exchange thoughts and ideas of their on-going research activities.
- ✓ Assess, comment, prioritise and supplement interim findings and final results of the project. Their contribution in the Validation Workshop, would be instrumental providing operational and hands-on expertise for validating the consortium's work and first major project milestone.
- ✓ Attend and actively participate in related workshops and in the Final Conference, with all expenses covered by the Consortium.

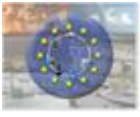
This Deliverable firstly describes the selection procedures and composition of the SAG, and proceeds with highlighting their participation and engagement in various phases of the project.



2 Presentation Table of Stakeholders Advisory Group

Initially, during the proposal phase all partners were asked to identify and suggest experts and organizations from their international networks that would bring significant added value to the consortium. During the project execution stage, the partners contacted several experts that were identified during participation to the meetings, to investigate their interest to be actively involved in the project. The efforts resulted in a list of 14 organizations coming from the emergency response community, academia and CI operators. They are briefly presented in the following section and presented in the next session.

Title		
Name	Country	Expertise
School of Civil, Environmental And Mining Engineering, The University Of Adelaide	Australia	Engineering including structures, materials, mechanics, environment, hydrology, geography, geology and soils
Maritime Search and Rescue Service (SAR), Gdynia	Poland	Government SAR Service maintains the Maritime Rescue Coordination Centre, the national contact point for spill response
The European Water Platform, Brussels	Belgium	WssTP is widely recognized as key reference organisation in the Research & Technology domain for the water sector
Security & Resilience Network, London First, London	UK	Non-profit organisation with the mission to make London the best city in the world
Institute of Meteorology and Water Management NRI, Warsaw	Poland	IMGW-PIB is a research and development unit operates in support of public sector and commercial firms and offers expertises in the field of meteorology and hydrology
Cyprus Civil Defence, Nicosia	Cyprus	Civil Defence aims at the protection and the security of people and their property and the mitigation of the possible results, caused by hostile action, natural or technological disaster
Head of the Laboratory "Computing and Technologic Infrastructures", ENEA, Rome	Italy	ENEA is the Italian National Agency for New Technologies, Energy and Sustainable Economic Development
Bushfire and Natural Hazards Cooperative Research Centre	Australia & New Zealand	Fire and emergency service authorities with leading experts to explore the causes, consequences



		and mitigation of natural disasters
Shiv Nadar University	India	International ambience in a local setting with innovative and engaging teaching methods, globally benchmarked curricula, world class faculty, and key partnerships in research
Maritime Office of Gdynia	Poland	VTS Gulf of Gdańsk provides a range of services and maintains control on maritime safety
National Taiwan University (NTU)	Taiwan	The Center for Weather Climate and Disaster Research (WCDR) in NTU is a leading institute on weather-related hazard and risk management research in Taiwan
UKCIP, Environmental Change Institute, University of Oxford	UK	Management of the Adaptation and Resilience in the Context of Change (ARCC) programme, communications and technical expertise, and digital and graphic design services. Scientific research, policy making and adaptation practice.
University of Illinois, National Center for Supercomputing Applications	USA	National Institute of Standards and Technology Center of Excellence (CoE) in Community Resilience. Developers of the Ergo (former MAEVIZ): An Effective Decision Support Tool for Hazard Mitigation
Academy for Strategic Analyses	Greece	Independent non-profit scientific and research institution – a think-tank – based in Athens. scientific, research and written work and collaboration with Hellenic and foreign universities, research centres and institutes, in various scientific fields.



3 EU-CIRCLE SAG members

3.1 SCHOOL OF CIVIL, ENVIRONMENTAL AND MINING ENGINEERING, THE UNIVERSITY OF ADELAIDE, AUSTRALIA

Logo



Address

<http://ecms.adelaide.edu.au/civeng/>

Short Description

The School of Civil, Environmental and Mining Engineering encompasses the most ancient and fundamental fields of engineering, and includes disciplines linked to the knowledge of structures and materials, to mechanics, the environment, hydrology, geography, geology and soils.

The School of Civil, Environmental and Mining Engineering is home to three research groups, each of which offers expertise in a variety of engineering disciplines:

1. The Structures Research Group contributes to the needs of the community through research underpinning structural and environmental resilience. The internationally recognised research is focused on two main aspects of resilience: Extreme Loading Resilience and Enhancing Structural Sustainability.
2. The Mining and Geotechnical Engineering Research Group brings together capabilities in geostatistics, operations research, rock mechanics, and geotechnical engineering with a focus on improving the efficiency of mining operations, both below and above ground. The major areas of research focus are: 1) Geostatistics research, focused on mining, petroleum and environmental applications. 2) Rock fracture modelling, applied to geothermal applications, enhanced coal seam gas extraction and stability assessment of rock excavations. 3) Geomechanics, investigating rock failure mechanisms and early warning systems, rock fracture mechanics, fracture detection using piezoelectric sensors, and rock cutting mechanics. 4) Geotechnical Engineering, in particular, ground improvement, slope stability assessment, borehole stability for solid rock and unconsolidated ground. 5) Mining operations research, focused on mining optimisation, planning and simulation.
3. The WaterSYSTEMS Research Group is one of the most experienced and accomplished engineering research concentrations in the Australian tertiary sector. The internationally recognised group focuses on applied research and problem solving in three major areas, and has developed software tools to support research in these fields.
4. EngTest conducts commercial testing, consulting and contract research using the equipment and facilities of the School of Civil, Environmental and Mining Engineering at the University of Adelaide. The consultants are available to assist both public and private organisations.



3.2 MARITIME SEARCH AND RESCUE SERVICE (SAR), GDYNIA, POLAND

Logo



Address

<http://www.sar.gov.pl/en/>

Short Description

The Maritime Search and Rescue (SAR) Service is based in Gdynia. It is a government service, which acts under the direct supervision of the Minister for Transport, Construction & Maritime Economy. The SAR Service maintains the Maritime Rescue Coordination Centre, the national contact point for spill response.

Main tasks of SAR Service are searching and rescuing any person being in dangerous at sea, independently of coincidence of this danger, and sea environment pollution combating:

- maintenance in still readiness for receive and analysing notifications about life danger at sea or emergency end pollutions at sea,
- planning, realizing and coordinating of search, rescue and pollution combating actions,
- maintenance in still readiness resources for life rescue and sea pollution combating,
- cooperation with another organisations units during searching, rescuing and pollution combating actions,
- cooperation with another national rescuing systems,
- cooperation with suitable services of other countries, during realization statutory tasks.

Above mentioned SAR Service tasks, are realized basing on “Searching and rescuing actions plan” (SAR Plan) and “National plan of sea environment dangers and pollution combating”.

Boundary of searching and rescuing area for SAR Service task realization and rules of cooperation in life rescuing and pollution combating at sea with suitable services of other countries are specified by agreements between governments interested countries.

SAR Service also realize different tasks related to maritime safety.



3.3 THE EUROPEAN WATER PLATFORM, BRUSSELS, BELGIUM

Logo



Address

<http://wsstp.eu/>

Short Description

Water supply and sanitation Technology Platform (WssTP- <http://wsstp.eu/>) was initiated by the European Commission in 2004 to promote coordination and collaboration of Research, Technology Development, and Innovation in the water industry. WssTP provides strategic answers for the water research future challenges and has 110 members and 210 contributors from industry, academia, researchers, water utilities, and water users. WssTP is led by industries in collaboration with academics, research organisations and water users to improve efficiency and financial opportunities in the sector. WssTP is widely recognized by the European Commission and National governments as a key reference organisation in the Research & Technology domain for the water sector. WssTP works with National Government representatives through the Mirror State Members Group (MSMG) including representatives that reflect on the activities.

WssTP was reconfirmed as one of the best-performing European Technology Platforms (ETPs) in line with the new ETP2020 strategy. With the values of innovation, expertise, professionalism and team spirit at cornerstones of its operation, WssTP strives to:

- Foster collaborative, innovative and integrated European Research and Technologies Development
- Ensure the European Growth and Competitiveness of the Water Sector
- Provide Global answers to Global Challenges for the next generations
- Address the challenges of an integrated and sustainable management of water resources



3.4 SECURITY & RESILIENCE NETWORK, LONDON FIRST, LONDON, UK

Logo



Address

<http://londonfirst.co.uk/>

Short Description

London First is a non-profit organisation with the mission to make London the best city in the world in which to do business, aiming to influence national and local government policies and investment decisions to support London's global competitiveness.

Drivers

- London government having the powers, resources and competences necessary to run London and support the city's growth – more devolution to London government of the taxes and of powers from national government.
- Airport capacity and services that provide London businesses with better resilience and more connectivity – more flights and destinations served, together with smoother border control procedures and a more customer friendly tourist visa regime.
- Transport infrastructure and services that enable business and employees to move around London efficiently – increased investment in London's transport infrastructure, coupled with greater efficiency and innovation from TfL and tough political decisions over charging to manage scarce road capacity.
- A step-change increase in the provision of housing to support London's growth- a package of measures to increase the number of new homes built in London to close the gap between household growth and housing growth.
- London's employers able to recruit the workforces they need at all levels– a combination of maintaining an open migration regime and improving training to ensure Londoners have the skills and attitude to be employable when they leave school or college.
- London having a world class built environment- work around planning and development policy to deliver growth and improved urban realm.
- A business-led London economic development strategy – supporting existing key strategic sectors, notably financial services, HE, leisure and tourism, and encourages business growth and new business.
- London having one of the most stable and competitive tax regimes in the world- internationally competitive rates of tax, including personal and corporate taxes, within a stable policy framework.
- London continuing to derive benefit from the UK's membership of the European Union. Work to make the business case for continued membership in the event of a referendum.

Priorities

- A step-change increase in the delivery of the housing that London needs to support its future competitiveness.
- An economic development strategy agreed between London government and business which paves the way for London's evolution post credit crisis.



3.5 INSTITUTE OF METEOROLOGY AND WATER MANAGEMENT NRI, WARSAW, POLAND

Logo



Address

http://www.imgw.pl/index.php?lang=en&option=com_content&view=article&id=147&Itemid=180

Short Description

IMGW-PIB is a research and development unit established on 1972, issued by the Council of Ministers. IMGW-PIB operates in support of public sector as well as commercial firms and offers various services and expertises in the field of meteorology and hydrology. IMGW-PIB general tasks are:

- Carrying out scientific-research works in the fields connected with the Institute's mandate.
- Making regular measurements and observations with the use of basic systems and measurement networks.
- Acquisition, archiving, processing and making available measurement and observational materials, both national and international ones.
- Preparation and dissemination of forecasts and warnings for general public and national economy protection as well as for state defence.
- Forecasting of water resources quality and air pollution.
- Elaboration of dams technical state and safety estimates.
- Issue of opinions and expertises in domains being the responsibility of the Institute.
- Construction, research, manufacturing, checking and legalisation of instruments and equipment.
- Standardisation and unification activities falling within the responsibility of the Institute.
- Participation in the activities of the World Meteorological Organization and other specialised UN agencies, co-operation with other organizations, national and international institutions.



3.6 CYPRUS CIVIL DEFENSE, NICOSIA, CYPRUS

Logo



Address

http://www.moi.gov.cy/moi/cd/cd.nsf/index_en/index_en?opendocument

Short Description

Civil Defence in the broadest sense, is series of measures, preventive and repressive, whose goals are the protection and the security of people and their property and the mitigation of the possible results, whether are caused by hostile action, natural or technological disaster, among the population.

The Civil Defence Force is an organised service under the Ministry Interior and covers the whole free areas of the Republic of Cyprus. The Civil Defence Force is consisted by the General Administration of Civil Defence (GEDPA), based in Nicosia and five (5) District Administrations (PEDPA), one in each District.

It aims to take the appropriate measures regarding prevention and preparedness, as well as measures to ensure a timely response to natural and manmade disasters, by promoting cooperation with the local communities and by always being updated concerning developments taking place in the field of civil protection.

The increasing threats that culture has to be face, and the challenging conditions that Cyprus in particular has to face, combined with the, and the demands of the European Union in the field of civil protection, ensure that Civil Defence continues to remain a significant contemporary need.

The Civil Defence is an organized force in the areas which are controlled by the Republic of Cyprus. The Force's objective is to increase the quality of its services, through better education, equipment and resources, the development and continuous improvement of new projects in the field of defence policy, while ensuring that the population is informed of self protection measures.

The Civil Defence's mission is to take preventive, repressive and supporting humanitarian measures in order to protect the population and its property, as well as the environment and critical infrastructure from the effects of disasters either natural (earthquakes, floods, tornadoes etc.) or manmade (technological accidents, armed conflict, etc.). It also aims to provide the necessary conditions for the population's survival and recovery following a disaster.



3.7 HEAD OF THE LABORATORY “COMPUTING AND TECHNOLOGIC INFRASTRUCTURES”, ENEA, ROME, ITALY

Logo



Address

*<http://www.enea.it/en>

Short Description

ENEA is the Italian National Agency for New Technologies, Energy and Sustainable Economic Development with the purpose of developing “research and technology innovation as well as providing advanced services to the energy sector, notably the nuclear sector, and foster sustainable economic growth”. It hosts over 2700 staff employees, distributed in its 9 research centers all over the national territory. It conducts research and innovation activities, and provides public administration, enterprises and citizens with its advanced services. Specifically, ENEA is concerned with energy efficiency, renewable energy sources, nuclear energy, climate and environment, safety and health, new technologies and electric research system. It hosts experimental laboratories and facilities.

Besides research, ENEA acts as national Agency in support of central and local Public Administration, enterprises and citizens. Specifically, ENEA provides:

- Services to Enterprises
- Support to Public Administration
- Technologies and Expertise for Cultural Heritage Preservation
- Radiation Protection Services
- Radioactive Waste Management Services

ENEA promotes collaboration with foreign organizations and institutions in order to participate in research programs and activities of the main international bodies acting in science and technology, also providing expertise for the definition of technical standards. The main initiatives are implemented within the Agency in the framework of:

- EU ACTIVITIES: EURATOM; Projects funded by the EU, European Technology Platforms; RTD Framework Programme Committees; ENEA Office in Brussels; Strategic Initiatives
- BILATERAL COOPERATION
- MULTILATERAL COOPERATION

ENEA also operates through its ENEA-EU Liaison Office in Brussels , promoting and strengthening the image of the Agency and supporting the development of research projects and activities within the European Union.



3.8 BUSHFIRE AND NATURAL HAZARDS COOPERATIVE RESEARCH CENTRE, AUSTRALIA & NEW ZEALAND

Logo



Address

<http://www.bnhcrc.com.au/>

Short Description

The Bushfire and Natural Hazards Cooperative Research Centre draws together all of Australia and New Zealand's fire and emergency service authorities with leading experts from universities and national research institutions across a range of scientific fields to explore the causes, consequences and mitigation of natural disasters. Our aim is to provide valued, high-quality research and advice on bushfire and natural hazards in order to:

- Reduce risk
- Enhance disaster resilience
- Reduce negative social, economic and environmental impacts
- Build an internationally renowned Australian and New Zealand research and utilisation capacity and capability

The focus of the Bushfire and Natural Hazards CRC appropriately reflects the impact of broader natural hazards on the Australian community and the need for emergency services, land managers, all levels of government and the private sector to understand a range of hazards. The new CRC is conducting coordinated and interdisciplinary research. This includes working with communities, to improve disaster resilience and reduce the human, social, economic and environmental costs from bushfires and other natural hazards.

It supports the development of cohesive, evidence-based policies, strategies, programs and tools to build a more disaster resilient Australia. The funding enables the CRC to provide a long-term research base that directly supports our emergency services and other government and non-government agencies as they work to prevent, prepare for, respond to and recover from natural disasters. This means that the various emergency service agencies, departments and non-government organisations around the country that become partners have a significant say in the development of the research program.

The utilisation of the research by the end users to the benefit of the broader Australian community is critical to whole process. This is one of the key drivers of the new CRC. The Bushfire and Natural Hazards CRC research program is being shaped to meet the extended requirements of the new centre. Relationships have been developed between researchers and end-users and the scope for broadening the program in future has been outlined. The program is structured into three major themes:

- *Economics, policy and decision-making*
- *Resilient people, infrastructure and institutions*
- *Bushfire and Natural Hazard Risks*



3.9 SHIV NADAR UNIVERSITY, INDIA

Logo



Address

http://snu.edu.in/naturalsciences/natural_sciences_overview.aspx

Short Description

The School of Natural Sciences aims to provide an international ambience in a local setting with innovative and engaging teaching methods, globally benchmarked curricula, world class faculty, and key partnerships in research. The institute encourages group learning and provides value-added hard and soft skills workshops along with key internships each summer. Undergraduate and Postgraduate programmes have been designed on the basis of SNU's underlying philosophy of interdisciplinary and research-led learning.

Vision

To lead the way in scientific research and development through the study and application of natural sciences, creation of a highly productive scientific workforce and fostering a true scientific temper among society.

Mission

- Bring the vital and exciting element of exploration and discovery to the study of natural sciences at the undergraduate level.
- Promote interdisciplinary research across departments and disciplines by setting up centres of excellence in teaching and research.
- Create vibrant partnerships with industry to solve problems that are relevant to mankind and a sustainable future.



3.10 MARITIME OFFICE OF GDYNIA, POLAND

Logo



Address

<http://www.efficiensea.org/default.asp?Action=Details&Item=439>

Short Description

In order to enhance the safety of navigation and capability to respond in emergency situations within the waters of the Gulf of Gdańsk and as an expression of concern about the marine natural environment, the Vessel Traffic Services "VTS Gulf of Gdańsk" has been established under Executive Order No. 10/2005 of May 6, 2005 of the Director of Maritime Office in Gdynia. VTS Gulf of Gdańsk (VTS Zatoka Gdańska) became operational on May 1, 2003, providing for participating vessels a range of services and maintaining control on maritime safety within VTS Area of responsibility.

The Maritime Office in Gdynia represents the Polish Maritime Administration, which is the national maritime authority in Poland. The Polish Maritime Administration has always supported and participated in maritime related activities. In the EfficienSea project Maritime Office in Gdynia contributes to three work packages: WP4 e-Navigation, WP5 Vessel Traffic Data & Maritime Planning, and WP6 Dynamic Risk Management.

Mission of Maritime Office in Gdynia

1. **Maritime safety and security**
particularly in the scope of inspections carried out by Flag State Control and Port State Control, monitoring of ships' traffic and sea routes, and security of ship and port facilities.
2. **Monitoring of ships' routes and the waterways**
through the implementation of Vessel Traffic System (VTS), CCTV systems, Digital Global Positioning Systems and AIS system, Dynamic risk management; maintaining the ships' traffic ability on the waterways and fairways, infrastructure ensuring safe port entrance through implementation of modern solutions in navigational marks and their continuous monitoring
3. **The management of waters and maritime spatial planning.**
The completion of these tasks enhances equal development and coordination of actions, which demands taking into account the complexity of port traffic actors, business activity at sea areas and areas directly endangered by sea waters influence, environment protection activities and the safe use of such areas.
4. **Marine environment protection**
 - time administration provides monitoring of Polish sea waters (Exclusive Economic Zone) within the framework of co-operation with the Baltic States, according to the provisions of The Helsinki Convention 1974, as amended in 1992.
 - participation in the sessions of MC and CC Committees (joined in Sea-based Pollution Group).
 - ensuring air surveillance of the port and internal waters carried out in close co-operation with the Border Guard and the Navy
 - providing preventive measures against oil spills in ports and drilling platforms
 - co-operation with numerous institutions in the scope of the application of MARPOL 73/78 requirements
 - participation in the sessions of the Marine Environment Protection Committee of IMO
 - Marine oil pollution is combated in co-operation with the Maritime Search and Rescue Service.



3.11 NATIONAL UNIVERSITY OF TAIWAN, TAIWAN

Logo



Address

<http://www.wcdr.ntu.edu.tw/introduction.html>

Short Description

The Center for Weather Climate and Disaster Research (WCDR) in National Taiwan University (NTU) is a cutting edge of the leading institute on weather-related hazard and risk management research in Taiwan. The WCDR team includes meteorologists, hydrologists, engineers and risk managers to investigate the complex disaster mechanism in Taiwan and provide solutions accordingly. WCDR reinforces international communication and academic-industry collaboration, as well as helps public sectors and local governments to build the capacity of risk management. Purpose of WCDR

- Global climate change has frequently affect many natural disasters such as floods, mudflows, and landslides.
- Due to global climate change, recent typhoons-Nari, Kalmaegi, Morakot, Fanapi, and Megi, and 88-flood catastrophe have incurred enormous damages and life loss in Taiwan.
- Reinforce international communication and academic-industry collaboration, provide high quality service to respond the impact of global climate change in order to efficiently reduce disaster damages.



3.12 UKCIP, ENVIRONMENTAL CHANGE INSTITUTE, UNIVERSITY OF OXFORD, UK

Logo



Address

<http://www.ukcip.org.uk>

Short Description

UKCIP works at the boundary between scientific research, policy making and adaptation practice. This enables us to bring together the organisations and people responsible for addressing the challenges climate change will bring. UKCIP works through research, consultancy and partnership. It is located within the Environmental Change Institute, University of Oxford. UKCIP provides the management of the Adaptation and Resilience in the Context of Change (ARCC) programme, communications and technical expertise, and digital and graphic design services. Its work falls in three main categories:

Decision-making for adaptation

- Exchanging knowledge & ideas
- Creative adaptation

UKCIP believes that adaptation should be underpinned by four critical factors:

- View climate adaptation as an on-going process. Exploring risks and vulnerabilities, and assessing, implementing and refining options should be an on-going activity. The UKCIP Adaptation Wizard can help guide you through this process.
- Make adaptation specific and relevant. Focus on a particular decision or question, and consider adaptation within existing decision-making strategies.
- Engage stakeholders, understand perspectives. Understanding individual perspectives is a critical part of the decision-making process. Personal and organisational interests will influence decisions and how they are made.
- Understand decision timescales. Some decisions leave a lasting legacy, e.g. expensive rail or road infrastructure. Understanding the lifespan of a decision will shape the information you need and the level of uncertainty you consider.

UKCIP has helped a wide range of organisations and supported the development of robust public policies and business decisions. Our experience is reflected in our portfolio of tools to support decision-making in a changing climate.

The UKCIP Adaptation Wizard is a step-based resource that guides users through the adaptation process, reinforced by supporting tools at each of its 5 steps. All of our resources have been developed through working with stakeholders, and tested and refined over time. Valued in the UK and overseas, the Wizard has inspired a group of similar resources including: 1) European Adaptation Support Tool. 2) Klimalotse, Germany. 3) Cegnar, Slovenia. 4) Climate Adaptation Wizard, Australia.

Case studies demonstrate its work with government, local authorities, businesses and civil society organisations. UKCIP can provide assistance to organisations directly or via its online portfolio of tools.



3.13 UNIVERSITY OF ILLINOIS, NATIONAL CENTER FOR SUPERCOMPUTING APPLICATIONS, USA

Logo



Address

<http://www.ncsa.illinois.edu/>

Short Description

NCSA focuses its interdisciplinary research efforts on six thematic areas (Bioinformatics and Health Sciences, Computing and Data Sciences, Culture and Society, Earth and Environment, Materials and Manufacturing, Physics and Astronomy). Each theme includes faculty-led research teams of professors, postdocs, and students who work together with expert NCSA to address major challenges. These initial thematic areas are the starting point for coordinating and exploring NCSA's research and education activities; additional thematic areas are anticipated as part of this process. Theme characteristics include: 1) Broadly defined with a portfolio of research projects spanning multiple interrelated activities. 2) Contribute to the nation's advanced cyberinfrastructure programs. 3) Involve faculty from multiple home departments and colleges. 4) Align with and advance the Illinois Strategic Plan.

NCSA will provide link between EU-CIRCLE and the NIST funded “Community Resilience Center of Excellence” to Help Communities Increase Resilience to Disaster (5 year fund).

The Community Resilience Center of Excellence focus on tools to support community disaster resilience. The center works on developing integrated, systems-based computational models to assess community infrastructure resilience and guide community-level resilience investment decisions. The proposed center also would develop a data management infrastructure, as well as tools and best practices to improve the collection of disaster and resilience data. For more information on NIST's ongoing programs on disaster resilience, see the Community Disaster Resilience for Buildings and Infrastructure Lifelines program. The NIST Centers of Excellence will provide an interdisciplinary environment where researchers from NIST, academia and industry will collaborate on emerging areas of basic and applied research and innovations in measurement science. These centers are meant to:

- Foster expanded development of expertise in measurement science and its role in innovation through the education and training of scientists and engineers;
- Provide greater opportunities for NIST to engage with industry and entrepreneurs; and
- Enhance technical innovation through earlier alignment of measurement science with emerging and innovative fields of research.



3.14 Academy for Strategic Analyses

Logo



Address

<http://www.acastran.org/>

Short Description

The Academy for Strategic Analyses (ASA) is an independent non-profit scientific and research institution – a think-tank – based in Athens. It was founded in 2014, by scientists from the Hellenic Armed Forces and Hellenic Security Corps, who have high level qualifications, rich scientific, research and written work and collaboration with Hellenic and foreign universities, research centres and institutes, in various scientific fields.

The main task of the ASA is the development of scientific work and activities in the field of Strategic Studies, Defense, Security and Foreign Policy, the elaboration of scientific analyses, research and studies, as well as the provision of specialized advisory and educational services to public bodies, private sector and to individuals in those articles, at national, European and international level.

The specific objectives of the ASA include:

- The analysis, research, study and assessment of the developments in the broader fields of the strategic environment analysis, defense, security, technology, international relations and geopolitics.
- The provision of specialized knowledge with every available means, such as print or electronic publications, the Internet, seminars, training programs, conferences and other scientific events.
- Public formulation of scientific positions and the promotion of the public dialogue on the above objects, and through these support of national issues, inside, within the international organizations and especially in the EU.



4 SAG Engagement

The SAG has been engaged with the EU-CIRCLE consortium during the entire duration of the project from the kick-off meeting. Their participation was multi-dimensional as is documented in the following lines:

Advising

According to the GA the key role of the SAG was to provide advice on the project trajectory and performed activities, in addition to exchange advice and recommendations with respect to partner's findings. During the entire process, the consortium was in contact with various members of the SAG to discuss progress of the work and exchange thoughts and recommendations. According to the consortium records at least 15 such meetings have been performed that include various conferences and meetings (ECCA 2015, Adaptaton Futures 2016, ECCA 2017, Community of Users 2017 and 2018 events, EC sponsored meetings, other project clustering events).

Links to international resilience initiatives

Critically important was the exchange of ideas on the success/failure factors influencing EU-CIRCLE as a conceptual framework and its commonalities with resilience approaches occurring at the international level. To this extend, the intense interaction with academics from Australia (School of Civil, Environmental And Mining Engineering, and Bushfire and Natural Hazards Cooperative Research Centre) on issues related to forest fires, Taiwan (National Taiwan University - NTU) on flooding and USA (NCSA and NIST Core Project) on the community resilience provided a re-assurance to the project on the implemented pathway.

Of special interest was the participation of Mr. Graeme Riddell in the kick-off meeting and subsequent meetings in Climate Change Conferences, representing the School of Civil, Environmental and Mining Engineering, **The University Of Adelaide**. Mr Riddell spoke extensively about the management of fires in Australia, their approach to the natural hazard mitigation and other topics such as integrated modelling, risk management, uncertainty and complexity in decision making.

Opening new exploitation opportunities

The consortium, through the SAG managed to open new areas of interest, especially in an emerging topic of strategic studies related to climate change and critical infrastructures. **New energy "highways" and pipeline projects bringing oil and natural gas to the EU.** The geopolitical element of this large scale investment projects with the climate threat multiplier was specifically targeted and addressed in bilateral meetings and participation in EU-CIRCLE events. To this extend the role of ASA, and participation in various European Security and Defence College (NCSR, KEMEA) provided a whole new array of possibilities.

New and evolving threats to CI, such as climate change are also of interest to the EU within the CFSP/CSDP framework require new approaches, based upon interdisciplinarity and inter-professionalism, and therefore the introduction of defense sector is proposed, as an additional stakeholder group, benefiting from the EU-CIRCLE concept and software and be used in future relevant studies.

Milan consolidation workshop

The Milan consolidation workshop (M12) was a key point in the project. It allowed the consortium to test derived resilience framework and envisaged project outcomes with the stakeholders and SAG members. During the Workshop Tsang-Jung Chang and Tsung-Yi Pan from the Hydrotech Research Institute, Center for Weather Climate and Disaster Research, **National Taiwan University** gave a presentation about "Taipei MRT protection measures –Typhoon Nariessens and responses". They presented the flood by Typhoon Nariin in 2001, the damages that caused by the typhoon, the response measures taken as well as the adaptation measures that adopted in case of a future event. They participated in the event taking part to the discussion about EU-CIRCLE case studies presentations. Also, Mr. Roger Street, representing **UKCIP, Environmental Change Institute, University of Oxford** took part to the meeting, where he requested a meeting from Torbay Council to discuss the EU-CIRCLE Case Study 3. The collaboration has being continued



as it is described below. **Cyprus Civil Defence (CCD)**, represented by Nicolas Paris, participated also in the Milan Stakeholders Advisory Meeting.

Joint workshop organization

The consortium held two workshops jointly organized with members of SAG. The first one “Workshop on Critical Infrastructure Protection and Climate Change” (March, 2017) was co-organised with **Cyprus Civil Defence (CCD)**. Representatives of CIs and national authorities participated. The impacts of climate change to infrastructure were presented, as well as the risk and resilience assessment developed through EU-CIRCLE. The second day of the workshop was a table-top exercise with the CCD and CI operators under climate change scenarios in 2050.

A joint meeting with the **NIST CoE** and **NCSA group for Ergo Training Workshop** was held in Athens on October, 2015. The meeting also featured several external members of the academic community from Europe and Middle East and had two parts. Initially there was a discussion on how to assess and quantify resilience for communities and critical infrastructures. This was followed by hands-on training for the ERGO platform and ways of implementing new analyses.

Participation in case studies

- During the EU-Circle Consolidation Workshop in Milan on 18th May 2016 Roger Street (Senior Research Fellow) from **UKCIP** (United Kingdom Climate Impacts Programme) requested a meeting with Dave Stewart and Mike Wood from Torbay Council to discuss the EU Circle project, the Torbay Case Study and the effects of climate change in the future. A meeting was held at Torbay Council’s offices on 30th August 2016 where Dave Stewart and Mike Wood explained the coastal flooding issues within Torbay and how this affects critical infrastructure within the bay. Discussions were held with regards to the effects that climate change will have on the flooding issues in the future particularly with regards to sea level rise which in Torbay is forecast to rise by over 1m in the next 100 years. Finally it was outlined how the case study would be undertaken especially with regards to modelling the effects of flooding on critical infrastructure and what climate change predictions we would include within the modelling (20 years, 50 years an 100 years of sea level rise and increases in rainfall). Following the discussions Roger Street asked to be kept informed of the project and he was invited to attend the Torbay Case Study Final Dissemination Workshop in March 2018 however, due to a prior commitment overseas regarding the UKCIP 2018 future climate change predictions.
- The **Cyprus Civil Defense** played an integral role in the conduction of the Cyprus case study, including:
 - Identification of the area and organisations (CI operators) of the case study (Vasilikos Energy Hub) in collaboration with EUC
 - Consultation with EU-CIRCLE partners (EUC and NCSRD) and the Cyprus Department of Meteorology to determine which natural hazards are of interest for the case study
 - Facilitation of contact between EU-CIRCLE partners (EUC, ADIT and NCSRD) and the relevant organisations operating in the Vasilikos area
 - Consultation and review of interview guide for CI operators
 - Provision of relevant data and information related to the Cyprus National Risk Assessment
 - Organisation of Table Top Exercise and Workshop on 21 September 2018, in which the results of the case study were presented and discussed with the CI operators and relevant public authorities