FONDATION
La main à la pâte
POUR L'ÉDUCATION À LA SCIENCE

Creating an international Centre for Climate Change Education

David Wilgenbus, Foundation *La main à la pâte*

AEMASE III - A way towards International Science Centres

Paris, October 3rd-4th, 2017

04/10/2017

Paris 2015 Agreement

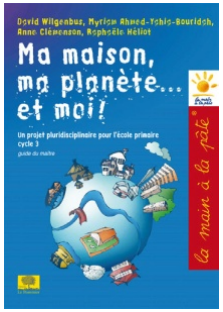
COP21 · CMP11
PARIS 2015
UN CLIMATE CHANGE CONFERENCE

Article 12

Parties shall cooperate in taking measures, as appropriate, to enhance climate change education, training, public awareness, public participation and public access to information, recognizing the importance of these steps with respect to enhancing actions under this Agreement.

La main à pâte and climate change in numbers

- → **4** large scale pedagogical projects in 10 years
- → **40,000** classes involved (primary and secondary schools)
- → **1 million** pupils
- → Average time spent in each class: **12** hours
- → **14,000** teachers trained
- → High level of satisfaction (> **90%**)



Priorities for an international initiative

→ Targets
- Teachers
- 9-15 yo students
- Developing and developed countries

→ High quality pedagogical resources

→ Professional development of teachers

Originality

→ Involvment of scientific community (IPCC, science Academies…)

- Expertise
- Network
- IPCC Reports
- Communication

→ Active pedagogy

→ Multilingual, opensource

→ Coordination

A prefiguration study (April – Sept. 2017)

Fondazione Ettore Majorana

INTERNATIONAL SCHOOL OF SCIENCE EDUCATION
(Director: Pierre Léna)

First Course (Sept.1-7, 2017), Erice, Sicily, Italy

CLIMATE CHANGE : A CHALLENGE FOR SCIENCE EDUCATION
(Director: David Wilgenbus)

CONCLUDING STATEMENT

The magnitude and urgency, the long-term effects, the threats and opportunities of the ongoing climate change, as evidenced by IPCC Reports, led to the COP21 and the Paris Agreement (2015), now ratified by 160 countries and having entered into force.

Along with political, economic and technical measures, education is recognized by Art.12 of the Agreement as an important component of a comprehensive policy, as the youth must be prepared to understand the issues, change behaviours, and act in the next decades as informed and responsible adults.

The Erice Course was attended by 34 climate scientists and educators from developing and developed countries, in order to examine how best to implement climate change education in primary and secondary schools worldwide, empowering teachers and students. They discussed and agreed on the following:

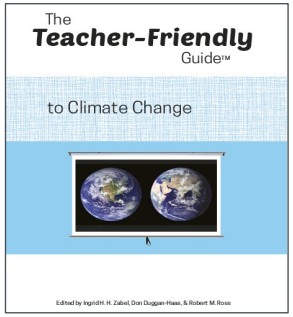
- The youth – girls and boys - must be prepared: to understand climate change and its consequences; and to discover that action is necessary and possible, in order to attenuate the impacts, mitigate the change itself and build a low carbon society;
- Primary and secondary schools can no longer continue 'school as usual', and profound changes in teaching methods and contents are necessary;
- Improving the way science is taught and the way related societal issues are addressed will be essential to develop rationality and critical thinking among students;
- Teachers at K to 12 levels are the key actors for these changes, but they must be supported and accompanied;
- Science education has made significant and exciting progress in the last decades, with pilot projects all over the world based on an inquiry pedagogy (Inquiry Based Science education). It now has to address the new challenge of climate change education, complementing natural science contents with social sciences and wider societal challenges. This being in phase with the breadth of issues involved in climate change, as evidenced in the *Intergovernmental Panel on Climate Change* (IPCC) periodic Reports.

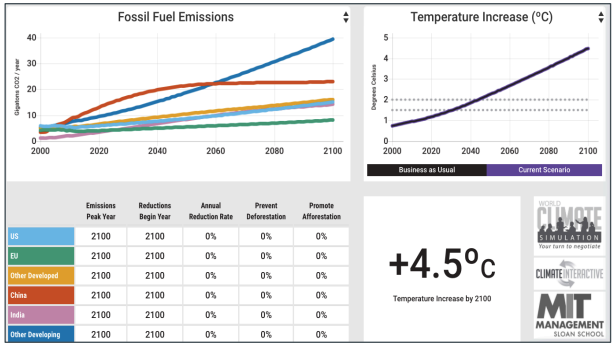
→ Statement: http://www.fondation-lamap.org/erice-climate-2017

Resources

→ IPCC ➔ Summary and tools for teachers

- Scientific documentation
- Pedagogical progressions
- Turn-key class protocols
- Participative science
- Testimonies
- Simulators
- Serious games





→ Global / regional / local

→ multilingual + opensource

Professional development

→ Local teachers' training sessions
- By local partners

→ Distant training sessions
- By the Center + local partners

→ International events
- COP side events
- Symposiums
- Summer schools…

Operational structure

→ One Center
- 6 persons
- Located in Paris
- A Foundation created by: La main à la pâte & IPSL
- Private and public funds
- Budget: 850 k€/yr

→ One International network
- Institutions
- NGOs

→ First step: 18 countries

→ Progressive extension

First Network

Region	Country	Partners in 2018/2019
Africa	Mauritius	Mauritius Institute of Education
	Madagascar	Association « Ecoles du monde »
	Morocco	Ecole Normale Supérieure de Casablanca
	South Africa	Centre AIMS de Capetown / Muizenberg
	Tunisia	Institut supérieur de l'éducation et de la formation continue
America	Canada (Québec)	Pôle régional pour l'enseignement de la science et de la technologie
	Chile	Pontificia Universidad Católica de Chile
	Colombia	Universidad de los Andes
	Mexico	Innovec
	United-States	Smithsonian Science Education Center
	Uruguay	Universidad de la Republica
Asia	India	Amrita University
	Indonesia	PT Kuark Internasional
	Thaïland	National Science and Technology Fair
Europe	France	Albédo climat
		Centre International de Recherche sur l'Environnement et le Développement
		Foundation *La main à la pâte* and its *Maisons pour la science* network
		Fondation Tara Expéditions
		Institut Pierre Simon Laplace
		Museum National d'Histoire Naturelle
	Germany	Freie Universität Berlin
		Potsdam Institute for Climate Impact Research
		Siemens Stiftung
		Stiftung Haus der kleinen Forscher
	Ireland	Institute of Education
	Italy	National Association of Natural Science Teachers
International organizations		InterAcademy Partnership
		Foundation for Environmental Education
		International Science, Technology and Innovation Centre for South-South Cooperation (Unesco-ISTIC)
		IPCC Working Group I - Technical Support Unit

Timeline

→ 2018
- Feb.: creation of the Center
- Oct.: kickoff meeting

→ 2019-2022
- Resource production (IPCC reports on 1.5°C/ocean/cryosphere/land use)
- Professional development
- Communication
- Annual meeting / Big Events
- Progressive extension

→ 2022
- 6th IPCC report
- Assessment

Conclusion

Key issues for an effective global initiative on climate change education:

- → Inquiry-based science education
- → High quality educational resources
- → Teacher training and field-accompaniment
- → Ambitious communication
- → Help of the scientific community
- → Coordination + network culture

Contact

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