

### For more information:

#### **Donetsk National University**

Universitetskaya str., 24 Donetsk, 83001 Ukraine

Tel / Fax: +380 (62) 305 1651 E-mail: research.div@donnu.edu.ua Web: http://www.donnu.edu.ua

Co-ordinator of project: Dr. Mykola Shestavin Mob.tel.: +380 (50) 217 9443 E-mail: <u>lcoir@ukr.net</u> Web: <u>http://www.lcoir-ua.eu</u>

### **Delegation of the European Union in Ukraine**

Kruglouniversitetskaya str., 10 Kiev, 01024 Ukraine

Tel.: +380 (44) 390 8010 Fax: +380 (44) 253 4547

E-mail: <u>delegation-ukraine@eeas.europa.eu</u> <u>delegation-ukraine-press@eeas.europa.eu</u> (Press and Information Office)

Web: http://ec.europa.eu/delegations/ukraine

This project is implemented by Donetsk National University (Ukraine)

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"The European Union is made up of 27 Member States who have decided to gradually link together their know-how, resources and destinies. Together, during a period of enlargement of 50 years, they have built a zone of stability. democracy and sustainable maintaining development whilst cultural diversity, tolerance and individual freedoms.

The European Union is committed to sharing its achievements and its values with countries and peoples beyond its borders".

The European Commission is the EU's executive body.



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Thematic Programme for Environment and Sustainable Management of Natural Resources, including Energy

> Project "Low-Carbon Opportunities for Industrial Regions of Ukraine (LCOIR-UA)"



A project implemented by Donetsk National University (Ukraine) -



Research and Education Center "Convergence Nano-, Bio- & Info-Technologies for the Balanced Regional Development"

## Thematic Programme for Environment and sustainable management of natural resources, including energy

### Concept

Ukraine is the 7<sup>th</sup> country for CO<sub>2</sub> emissions, and more than 70% of these emissions are the result of the energy sector, mainly fuelled by local coal (5<sup>th</sup> communication of Ukraine about climate change matters, Kiev, 2009). One has to add that most of the thermal power plants are located in the Eastern part of Ukraine, precisely in the regions chosen for this project.

For the rest of the industrial sector, metallurgy, mining activities, and chemical productions are huge consumers of coal-based energy, and a large part of these plants are also located in the regions under studies.

Since now, the only reduction of  $CO_2$  emission in Ukraine has resulted from the collapse of the industry after the end of the USSR and its stream of factory closures. To revive the industry without excessive  $CO_2$  emission growth, Ukraine and the Donbass industrial basin need CCT and CCS.

The main problem faced by the Ukrainian energy and industrial sectors is its wear: most of the equipment has been working for more than 50 years. This mere fact explains a significant part of the overtaking in CO<sub>2</sub> emissions in regard of the local norms.

The equipment is already too old to be adapted to a less emitting technology using CCT and CCS, and thus has to be scraped and replaced by new technologies.

Now is the time for Ukrainian to renew their items, and to choose efficient ones. So there is a need for an increased knowledge in CCT and CCS, for decision-makers, industrialists and academics. Direction "Cooperation on clean coal technology (CCT) and carbon capture and storage (CCS)"

## **Objectives**

The overall objectives of the Action are as follows:

- To promote and help the actual implementation of CCT and CCS activities in Ukraine.
- To initiate cooperation in CCT and CCS between Ukraine and the European community.

# The specific objectives are as follows:

- To improve the knowledge of the Ukrainian context for implementation of CCT and CCS.
- To define potential sites for adaptation programs of CCT and CCS technologies in Ukraine.
- To have the main stakeholders aware of the CCT and CCS technologies as a tool against climate change.

Targeted groups from the selected industrial regions (Donetsk, Dnipropetrovsk, Kharkiv, Lugansk and Zaporizhzhya regions):

- Representatives of the regional state bodies and local self-government authorities;
- Administrative and engineer-technical staff of regional energetic and industrial companies;
- Representatives of regional educational and research communities;
- Students and post-graduates of natural and economic faculties.

## Project

"Low-Carbon Opportunities for Industrial Regions of Ukraine (LCOIR-UA)" Term of implementation: 2011-2012

### **Project components**

Donetsk National University realise three parts of the project:

### 1. Assessing national and regional context of the opportunities of deployment of climate technologies in Ukraine

The deliverables of this part will be report of the worldwide context; report of the existing Ukrainian policy; report of the existing regulations Ukrainian review; report of the Ukrainian stakeholders; recommendations for climate technologies capacity building in Ukraine

### 2. Screening: construction of a Geographical Information System (GIS)

For assessing the opportunities and barriers for the deployment of climate technologies in Ukraine, GIS of CO<sub>2</sub> sources and absorbers will be created as well as recommendations for actual deployment of the technologies in the industrial regions of Ukraine will be provided.

### 3. Knowledge sharing

Sharing of knowledge, created and accumulated during project execution will be realized through organisation and holding of a educational session and round tables for the representatives of authorities and business, as well as for teachers, scientists and engineers; international conference on the topical issues of climate change and use of climate technologies; lectures for senior students and postgraduates of universities.

A monograph, books on use of climate technologies; quarterly informational bulletins will be published and a web-site will be created within the project.