Center for Climate Change

Brief Information

Skopje, March 2013

Mission and Vision of Center for Climate Change (CCC)

NGO "Center for Climate Changes" (CCC) was established in late 2007 and officially registered in January 2008, as non – government, non – religious, non – political, and non – profit organization.

The mission of CCC is to protect environment and implement activities combating climate changes and improving the environment. The main aims of the Center for Climate Changes are:

- Support industry in improving their energy and environmental performance
- Raising public awareness about Climate Changes and opportunities of CDM
- Suggesting measures for improving and amendment the legal framework in the field of Energy, Climate Changes and Environment
- Strengthening the capacities of the local and national level, and so to the industry capacities for developing climate change related projects and improve environmental performances
- Promoting and supporting environmental governance, energy and environmental management.

CCC's vision is to make low carbonated community and environmental responsible society. In order to achieve this CCC is directing its activities towards industrial energy efficiency, industrial pollution and prevention control, waste management, climate change mitigation and adaptation measures and energy and environmental management.
CCC was established by people who have extensive experience in climate change, environment management and protection, who want to share their experience to others and support central and local authorities in establishing good governance in environment, particularly in combating climate change and promoting energy efficiency and renewable energy.

1. Energy Efficiency Projects developed with Norsk Energi through the CCEI programme

1.1. Study on carbon footprint reduction for Socotab AD Bitola

The scope of work includes preliminary audit of the boiler house, steam, hot water and condensate systems; HVAC, chillers and chilled water system; compressors and compressed air system, pumping system and lighting system. The analysis completed leads to a general conclusion that during the design, selection and procurement of equipment, as well as during the installation phase, it was striving to implement the best practices for energy efficiency.

1.2. Possibilities for waste heat recovery from technology process in Vardar Dolomite – Gostivar

The objective of the work was to identify and assess the possibilities for utilization of waste heat of exhaust gas from the shaft kilns in Vardar Dolomite – Gostivar. It was found that there is a relatively large amount of heat contained in the exhaust gases of the shaft kilns. Five different options were analyzed as possible ways for recovery of exhaust gas waste heat.

1.3. Potentials for utilization of waste energy in Skopski Leguri, Skopje

For this company study on energy recovery options was developed. This study identifies many options for utilization of waste energy which implementation will lead towards reduction of CO2 emission of around 35150 t annually.

1.4. Replacement fossil fuels with grape residues in Municipality of Kavadarci

The aim of the pilot project described in this pre-feasibility study is to replace fossil-fuel based heating with heating based on biomass waste from vine pruning in in a public school in Municipality of Kavadarci, and this way assess the potential of a wider use of waste biomass generated by the wine industry, for heating purposes. It is estimated that the volume of biomass generated in the pruning season in Kavadarci, which today is treated as waste, is suffient to cover the heating demand in all publich buildings in the municipality.

1.5. Efficiency in energy supply in OHIS AD Skopje

The report concludes that the efficiency of the boiler is between 63-73%, and the efficiency of the steam-condensate system is assessed at 50-55 %. The potential for energy savings is considerable. The feasibility of proposed energy saving measures depends on future development of the industrial complex AD OHIS.

1.6. Cooling tower modernization in TPP Bitola

The report concludes that this replacement will lower the cooling water temperature, and thereby improve the overall efficiency of the power plant from 30,93 % to 31,12 %. The investment is estimated to 10 mill EUR. The reduction of CO2 emissions will be about 25000 tons per year.

1.7. District heating with thermal energy from TPP Bitola

This study is focusing on analysis of possibilities for district heating of Bitola and the neighboring municipalities Novaci and Mogila, by use of thermal energy from the Thermal Power Plant Bitola, as well as on analysis of effects and benefits that would be achieved by implementation of such project. Total investment for this project is 40 mil EUR and income is estimated to 14 mil EUR.

1.8. New greenhouses supplied with waste energy from TPP Bitola

The aim of this report was to assess the potential for using low temperature waste heat from REK Bitola to heat new greenhouses in the vicinity of the power plant. It was concluded quickly that the temperature of the cooling water at REK Bitola is not sufficiently high cover the need on greenhouse businesses. However the study provide useful input to potential future development of district heating system in the region based on heat produced at REK Bitola.

1.9. Pre-feasibility study on feasible options for improvement of the energy efficiency and energy saving in the MZT Wabtec, Skopje

The scope of the audit and assessment focus in the framework of the energy assessment activities were: department for mechanical processing, forging and welding department and the department for surface protection. There were a number of energy efficiency improvements and energy saving options generated and even though some of them were in certain phase of implementation, still there was a huge potential for more savings in this company. Cost effective assessment estimated around 100.000 EUR savings annually.

1.10. Energy efficiency and potentials for WHR in Jugochrome Ferroalloys – Jegunovce

This is the biggest energy consumption company in Macedonia, where the following EE options were identified:

- Flue gases dust trap (and selling);
- Flue gases waste heat recovery;
- Minimization of the dust generation in the production process.

Only utilization of energy contained in flue gases will lead to approximately 6 mil EUR saving/year.

1.11. Identifying energy efficiency measures in boiler plant at University Clinical Center – Skopje

The focus areas within the CP project were the boiler plant; namely, water treatment, production and transportation of steam and hot water; condensate return; as well as the efficiency of operation/function of certain parts of the energy facilities in the Clinical Centre. The main objectives obtained with implementation of this measure are: improvement of combustion efficiency to reduce fuel consumption and reduction of the emission

1.12. Energy Efficiency in Karpos Factory, Skopje

There are plenty of energy efficiency measures identifying in this company, where most of them are directly related with the energy management, generation and use (steam, compressed air, electricity etc.) in technology processes and for space heating, but some of them are primarily related to the materials handling and some with organisational issues.
Benfits for the company are high and are related to less fuel and energy consumption and less emissions. Payback period is estimated as very short.

1.13. Cleaner Production report for Teteks Yarn – Tetovo

The goal of this initial analysis was to give an overview of possible cleaner production options at the company Teteks Yarn, as well as to recommend possible options for improvement. In general, there are two options for increasing the energy efficiency in the technological processes performed in the company Teteks Yarn, where option I is to build up new Teteks Yarn production facility, completely independent, and option II, to revitalise and modernise the existing Teteks Yarn facilities.

2. Other related projects

2.1. Building Local Expertise in Climate Project Development (CDM)

Since October 2008, CCC is a local partner of the Norwegian consultancy company Norsk Energi and is focal point for their activities in Macedonia. In cooperation with Norsk Energi was realized the programme "Building Local Expertise in Climate Projects Development" with duration from October 2008- September 2009. Within this programme several workshops were organized with main aim on project development, training of DNA associated experts, PIN and PDD preparation from where are arisen and identified 4 potential CDM projects. Additional outcome of the programme is increased awareness of business opportunities within climate projects, initiation of project identification, long list of project ideas, several PINs prepared, increased knowledge of CDM concept and PDD development among stakeholders and local experts, and at the end as higher achievement increased chances for Macedonia to enjoy long term benefits of CDM project implementation.
Project outcomes: Strengthened capacities for developing CDM projects on national level, increased awareness for CDM and its importance, 11 Project Idea Notes (PIN) developed, 4 Project Design Documents (PDD) Developed,

CCEI
Cleaner and more cost effective industry in Macedonia

2.2. Cleaner and More Cost Effective Industry in Macedonia

Starting from June 2009 Center for Climate Change as local partner of Norsk Energi was working on a programme "Cleaner and More Cost Effective Industry in Macedonia" –CCEI a three year

programme funded by Norwegian Ministry of Foreign Affairs. The project addressed barriers to project implementation by building local competence, increasing awareness, developing a pipeline of climate projects ready for financing, as well as improving the dialogue between the authorities, academia, project developers, industry and financial institutions. The project had three components: Energy Efficiency, Environmental Management Systems and Student Exchange.
Project outcomes: 13 studies for energy efficiency in 3 year period developed, implemented EMS at 4 companies, conducted student exchange at 2010 for 2 students, obtained student internship for 4 students at 2011, improved dialogue among ministries, relevant institutions, international finance institutions, municipalities, universities, increased local capacities among young engineers in developing EE studies and providing consultancy, raised awareness for implementing energy saving measures.

2.3. Strengthening Capacities for Ministry of Environment and Physical Planning for IPPC and Hazardous Waste Management (HWM)

In September 2010, Center for Climate Change and Norsk Energi have started to work on another three year programme "Strengthening Capacities for Ministry of Environment for Integrated Pollution and Prevention Control and Hazardous Waste Management". The programme consists of two separate components:
Component 1 –Integrated Pollution and Prevention Control (IPPC) will address both the imminent need for assistance regarding the issuing of IPPC adjustment permits to Macedonian industry, and securing the long term technical capacity in the governmental institutions to perform IPPC related tasks and issuing IPPC permits in accordance with IPPC Directive and future EU related integrated pollution directives, in particular the emission control directive.
Component 2 (HAZARDOUS WASTE) will focus on the hazardous waste problem that is evident in Macedonia. By using the National Waste Management Strategy 2008-2020 as a starting point the project aims to map locations, amounts and types of hazardous waste at existing storage sites. Another key element in this component is to map and systemize industry that are generating hazardous waste as a result of their daily operations; including characterization of types, volumes and assessment of treatment systems.

2.4. Replacement of Fossil Fuels with Grape Residues in Municipality of Kavadarci for reducing GHG emissions.

Center is partner with Municipality of Kavadarci and main aim of the project is changing common practice of the local people instead burning grape residues utilization for heating in schools. As Pilot project is taken Gimnasium Dobri Daskalov, where one of the boilers will be replaced with boiler working on grape residues. As a part of this project, CCC is doing continuing efforts to implement this project, so now laboratory examinations on the potential of fuel utilization are planned to be conducted.

2.5. NGO" Center for Climate Change" is a project partner to Faculty of Mechanical Engineering in the TEMPUS DEREL Project, financed by the European Commission.

Project main objective is implementation of the Bologna process into the DEREL Partner Countries higher educational system and establishing of sustainable regional DEREL Network. Specific objectives are developing new, up to date postgraduate curricula in Environment and Resource Engineering at the Cyril and Methodius University in Skopje, University of Novi Sad and Polytechnic University of Tirana based on Europan Credit Transfer System and in accordance with Bologna Process, following the criteria for setting up a Joint Postgraduate Degree.

3. Other competence

CCC was engaged in giving trainings for environmental impact assessment, preparation of elaborates for protection of environment, drafting of IPPC permits and waste management programs. CCC staff was involved in activities related to introduction of eco-labeling in Macedonia, drafting criteria for eco-labeling for tourist accommodation, furniture and textile and public awareness camping for eco-labeling.
In addition CCC staff participated in preparation of Environmental Local Action Plans for two municipalities and in preparation of the Strategic Impact Assessment reports.

Aim to strengthen our capacity since the beginning; CCC has team of four people that represent the core of its organization, good cooperation with more than ten professionals and consultants in the field of energy and environment that are engaged in CCC activities. One of the CCC core staff is certified EIA expert and has Waste Manager License and one member is External Certified EMAS Auditor. CCC employees are also certified SEA experts.

4. Regional cooperation

Center for Climate Change has also very good regional cooperation with many different institutions and organizations working in the field of climate change impact to underground waters, forests, fire prevention and biodiversity.

Contact us

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