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**“Introducing the use of the GAINS
model in Bulgaria”**

BAS – about 63 institutes and laboratories

- International evaluation by ESF (European Science Foundation)
- BAS – Restructuring (integration of institutes and establishing clusters in 3 main thematic areas)
- Involving young scientists

NIMH

- Main representative of WMO for Bulgaria
- Integration with the Institute of Water Problems
- Internal restructuring

Modeling Group within the department

“Air and Water Composition”

○ Main Projects

- EMEP – joint project with the EMEP center EAST on the use of the Bulgarian model EMAP for assessment of pollution for Bulgaria with heavy metals, SO₂, etc.
- Emergency response system in case of nuclear accidents and participation in ENSEMBLE.
- Towards an European Network on Chemical Weather Forecasting and Information Systems (ENCWF)

Integrated modeling in Bulgaria

- Outside of the NIMH the model RAINS was used by the Ministry of Environment and Waters (MOEW)
- RAINS was used in NIMH during the project DECADES with IAEA – a case study about Bulgarian energy sector.
 - Use of DECADES results for emissions as emission vector in RAINS for impact assessments.
 - Use of EMAP results for SO₂ as emission vector in RAINS.
 - Comparison of some results, obtained by DECADES, EMAP and RAINS.

Integrated modeling – next step

- Participation of NIMH in the FP5 project MERLIN on an integrated approach for Multi-pollutant Multi-effect Assessment of Air Pollution in Europe.
- Bulgarian participation – national data collection about different economic sectors
- No possibility to use this integrated model

Integrated modeling – further steps

- One proposal during 2007 in connection with SEE ERA programme of EC – unsuccessful
- Two project proposals (during 2008 and 2009) to the Bulgarian “Fund Scientific Investigations” – unsuccessful
- Proposal 2009 – “ Use of the integrated model GAINS for assessment of policies for air quality improvement and GHG mitigation in Bulgaria till 2030”.

More about the proposal 2009

- Main participants: NIMH and ICSR (Institute of Control and System Research) - BAS
- Unsuccessful attempt to join MOEW – department of environmental strategies.
- Participants from abroad as consultants - Dr. Janusz Cofala – IIASA and Dr. Andrew Kelly - AP EnvEcon
- Evaluations – 4 reviews (3 from abroad and 1 from Bulgaria). Maximum score for each one – 100.
- The scores from abroad were: 88, 94,94. The Bulgarian review was concerning another project and we made an objection.

Beginning the use of GAINS

- Training with the stored data and scenarios
- GAINS – Bulgaria
 - Involving more institutions/partners
 - Data collection from
 - MOEW
 - National Statistical Institute (NSI)
 - Results from different projects (for example, for energy sector, results from the project CASES).
 - Scenarios for separate sectors with national data
 - Need in a project - new attempt this year
 - Application of the results from the project EC4MACS – possibilities
- Possibilities to use GAINS not only online
- Advice is welcome

THANK YOU!