

# *ETSAP Cork Workshop*

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## *ETSAP Liaison Officer Activities 2010*

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## *Supporting the ETSAP Tools - GAMS*

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- As of GAMSv23.3 CPLEX/XPRESS/GUROBI exploit multiple CPUs in parallel during Barrier or MIP operations, OPT files distributed
- Procedure and routine to check scaling of MARKAL/TIMES models distributed
- GAMS parameter scrext=txt added to the GAMS call (from VTRUN.CMD, pending for ANSWER-TIMES) to get around some virus protection (that worry about .scr file extension)
- Sort out GAMS bug in v23.5.1 that had CPLEX performance issues (changed MIPSTART 1 on some models)
- Add OPTION solvelink=5 lp=cplexd mip=cplexd rmip=cplexd; to the <case>.RUN file for some Windows-7 computers with limited memory



## Supporting the ETSAP Tools – MARKAL Code

- Minor Enhancements (current version 5.9c)
  - ❑ Total discounted energy system cost for MED now reported in T01
  - ❑ Get timesliced Exports ported to VBE
  - ❑ Allow for longer scenario lengths for VBE
- Maintenance
  - ❑ Sort out GAMSv23.3 bug that fell over on 2<sup>nd</sup> declarations
  - ❑ Fix multi-region models with flexible timeslices initialization
  - ❑ Fix TXSUB handling of BASeload plants
  - ❑ Adjust undiscounted annual cost reporting for MED
  - ❑ Fix Stochastics not setting BOUND(BD)O and handling MED reporting

## Supporting the ETSAP Tools – TIMES

- Coordinating with Antti/Amit minor TIMES enhancements
  - ❑ Refinements to handling iLEDs
  - ❑ G\_OFFTHD(year) to fine-tune handling of PRC\_NOFF
  - ❑ Reporting for processes
    - actual year the new capacity is available for iLEDs
    - total lumpsum investment costs for new capacity additions
  - ❑ AF(Io) now permitted
  - ❑ FLO\_CUM now available (e.g., oil & associate both with cumulative limits)
  - ❑ Review draft information notes on changes
- Preparation of the VEDA/TIMES NewDEMO training model and “exercise” with Kathleen/Mauri/Amit
- Collaboration with NCSU (Joe DeCarolis) to port MARKAL and TIMES to the Linux cluster

## *Supporting the ETSAP Tools – General User Direct Support*

- GAMS {31 exchanges}
  - ❑ Acquisition, installation, setup and hiccups
- MARKAL {49 exchanges}
  - ❑ Stochastics, MED, infeasibilities, interpretation of model behavior
- TIMES {12 exchanges}
  - ❑ interpretation of model behavior
- ANSWER & VEDA {24 exchanges}
  - ❑ Setup and licensing, general use
  - ❑ Enhancement suggestions and testing new features

## *New Users of the ETSAP Tools*

- ADB Pak-IEM project has introduced TIMES/VEDA to the Planning Commission, 4 support institutions and 2 universities in Pakistan (2009-10)
- USAID/HA SYNENERGY Strategic Planning project has introduced MARKAL/ANSWER/VBE to 12 Energy Community countries, over 20 Ministries and institutions (2006-10)
- Those purchasing GAMS in 2010
  - ❑ Universities: Carnegie Mellon, MIT/NED, Ulster, Keio, NU Singapore, Trinidad & Tobago, Technology Sydney, Virginia Tech, Fudan, UC Boulder, Kumoh National Institute of Technology, Chulalongkorn
  - ❑ Government & Commercial: USDOE-OPA&E, IEA-China, Mitsubishi Research, Asian Development Bank, USEPA-APTB, California Air Research Board, Kosovo Ministry of Energy & Mines