ANSWER-TIMES Live Demonstration

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Live ANSWER-TIMES Demonstration – Overview

◆ Create miniature single-region TIMES model from scratch (manually and by Excel import)
  – Defining processes, commodities & timeslices
◆ Specify Rule-based User Constraint
◆ Add Datayears and model run periods
◆ Use bulk-copying facilities to replicate single-region model in several other regions
◆ Specify trade between regions
Reference energy system

Defining processes and commodities

Domestic production of gas
MIN_NGAS

Natural gas combined cycle plant
ECCGT

Electric room heating
RHEATELC

RHEATGAS

Domestic production of oil
MIN_CRUDE

Refinery
OILREFIN

Electric car
TCAR-DL

Gasoline car
TCAR-GSL

Diesel car
TCAR-DL

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MIN_CRUDE

Domestic production of gas
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Natural gas combined cycle plant
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Region 1

MINREG

Region 1

MINREG

Region 1

Noble-Soft Systems
ANSWER Energy Modeling Software
Adding time slices and load curves

Defining flexible processes
Defining processes and commodities

Create miniature single-region TIMES model from scratch - 1

- **Nine TimeSlices** (apart from ANNUAL)
- **Eight Commodities**
  - CRUDE, NGAS
  - DSL, GSL, ELC
  - RHEAT, TCAR (demands)
- **Ten Processes**
  - MIN_CRUDE, MIN_NGAS (extraction)
  - OILREFIN, ECCGT
  - RHEATELC, RHEATGAS (DMDs for RHEAT)
  - TCAR-DSL, TCAR-GSL, TCAR-ELC (DMDs for TCAR)
Create miniature single-region TIMES model from scratch - 2

New form to allow specification of I/O Commodities, PCG

Use bulk-copying facilities to replicate single-region model in several other regions

- **Create new Regions**
  - Specify Global tab parameters
- **Bulk-copy TimeSlices**
  - Copy Season TimeSlices first, then DayNite TimeSlices
- **Bulk-copy Commodities**
- **Bulk-copy Commodity Groups**
- **Bulk-copy Processes**
Specify trade between regions - 1

New TradeProcess Tab (no Region column in Items listview)

Specify trade between regions - 2

New form to allow specification of Trade Process
Specify Rule-based User Constraint - 1

*Electric car at least 10% of automobile transport demand*

1. Define TechFilter ALLTRN_DMD to select all automobile transport DMDs

Specify Rule-based User Constraint - 2

2. Define Rule-based User Constraint, using UCRULE_ACT and TechFilter ALLTRN_DMD
Specify Rule-based User Constraint - 3

3. Resolve Rule-based Constraint
(to check we got it right)