



SimTool

Product Introduction

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Uncertainty in energy and central heating plant sector

- New policies:
 - Industrial emission directive
 - New clean air act in the Czech Republic
 - New state energy conception
 - New climate change policy
- Changes in people's environmental preferences?
- Necessity to react to the changing conditions
- Other factors...



SimTool

- Regulation (new Czech and EU legislation)

- Input price changes (Czech&EU energy policy)

- Companies (object of the policies)

- Investments (costs, expenditures, savings...)

- Changes in fuel used in companies

- Emissions changes  Immission changes??



Model characterization

- **General approach**
 - **GAMS (General Algebraic Modeling System)**
 - **Company microeconomy theory (double-entry accounting)**
- **Variables changes:**
 - **average increase in time**
 - **time series of the annual increases**
 - **absolute values for each year**
- **Model assumptions:**
 - **Variables as non-random parameters; could be also defined as random variables with selected random distribution**
 - **Price elasticity included in the model**
(Heat price increase = demand decrease)



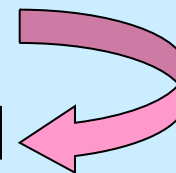
Data Inputs

- **Individual data of the company**
 - Income statement
 - Balance-sheet
- **Planned Investments and subsidies**
- **Emissions etc...**



Data Output

- **Simulation of the individual account sheets in selected time horizon**
 - Income statement
 - Balance-sheet
 - Cash flow record
- **Modelling output includes information about all accounting variables in the company**
i.e. data for each variable can be separated



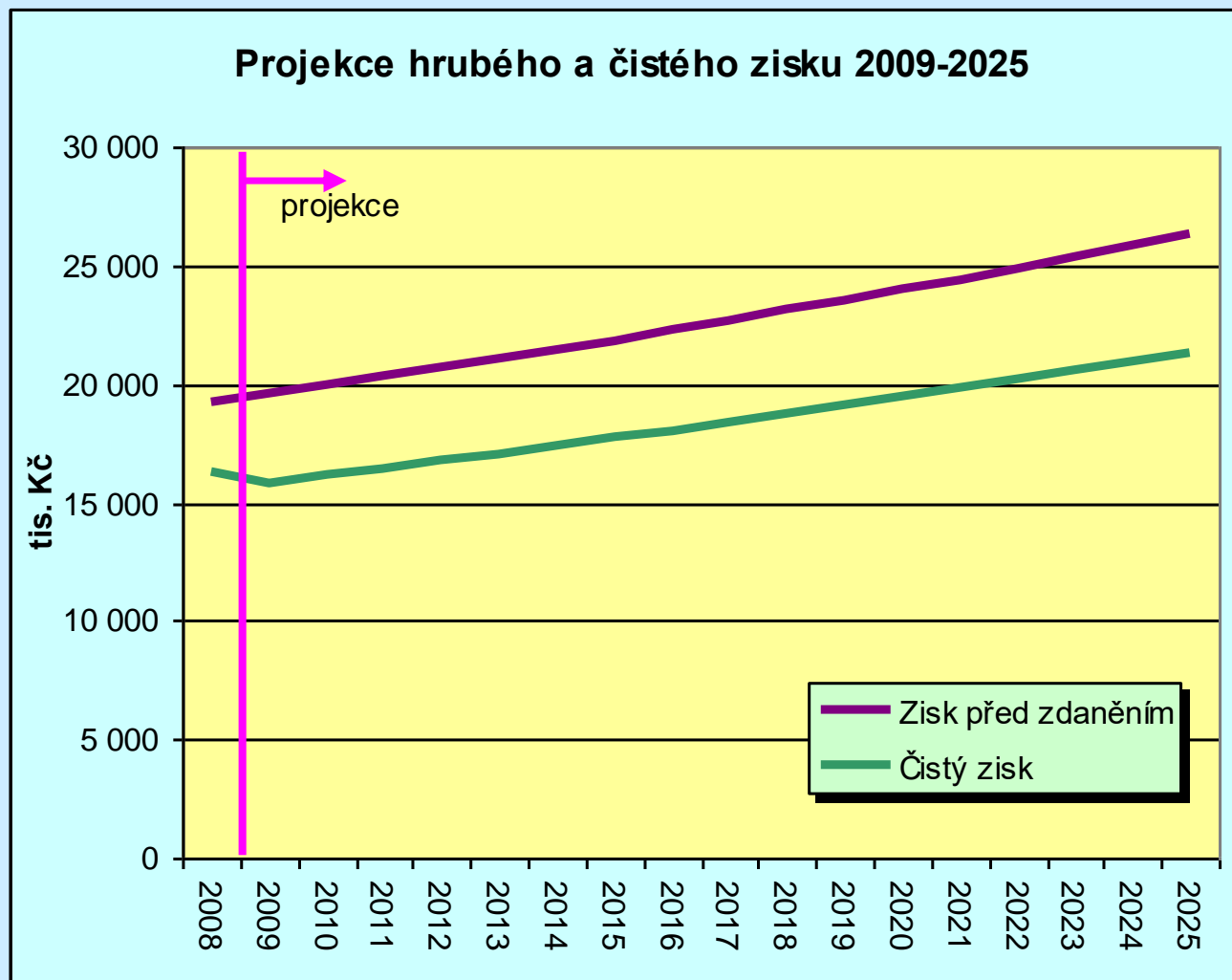


Example of covered environmental variables and changes

- **Emissions charges**
- **EU ETS**
- **Boilers reconstructions**
- **Subsidies**
- **Biomass coburning etc...**

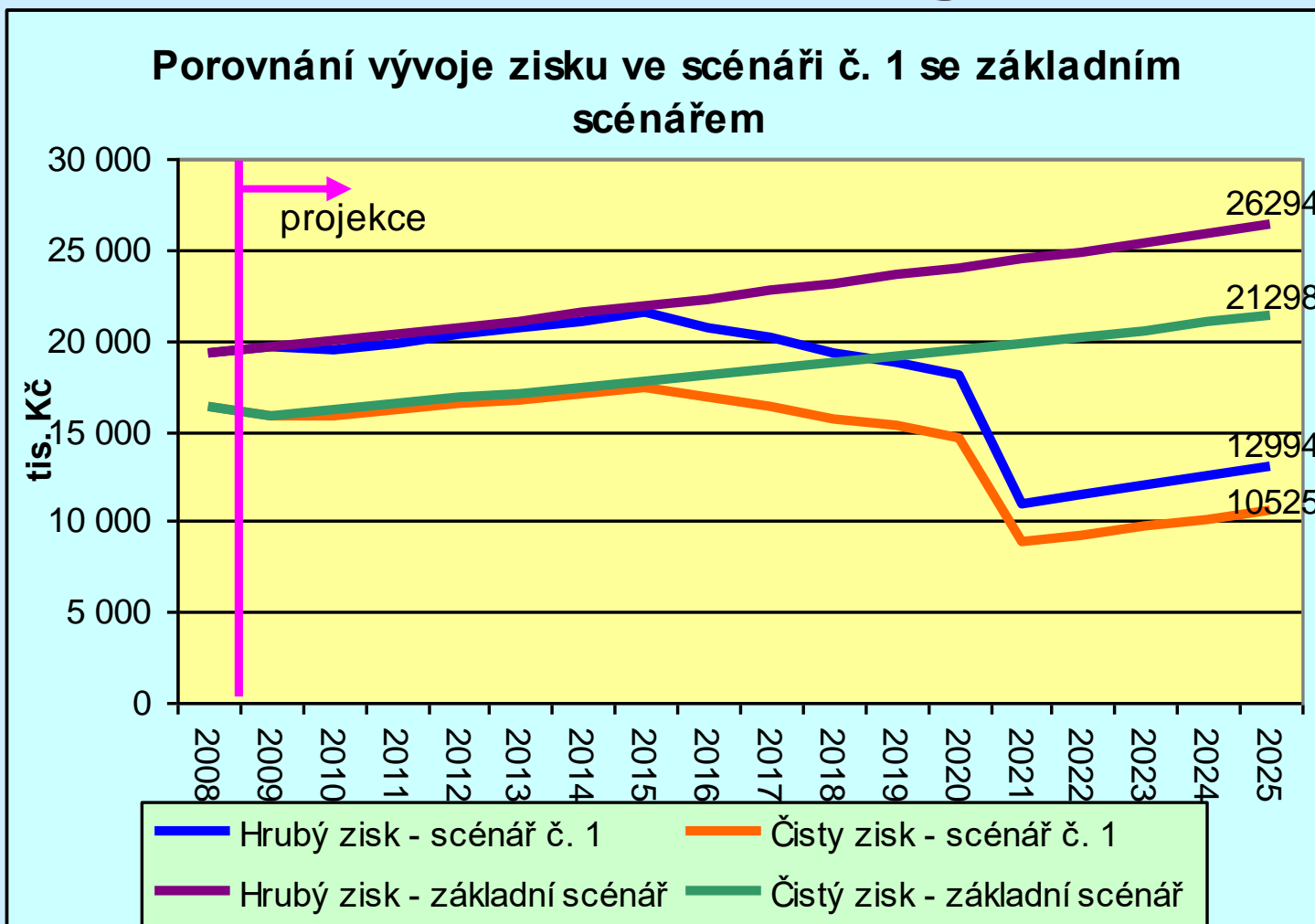


Expected pretax and net profit in the base scenario



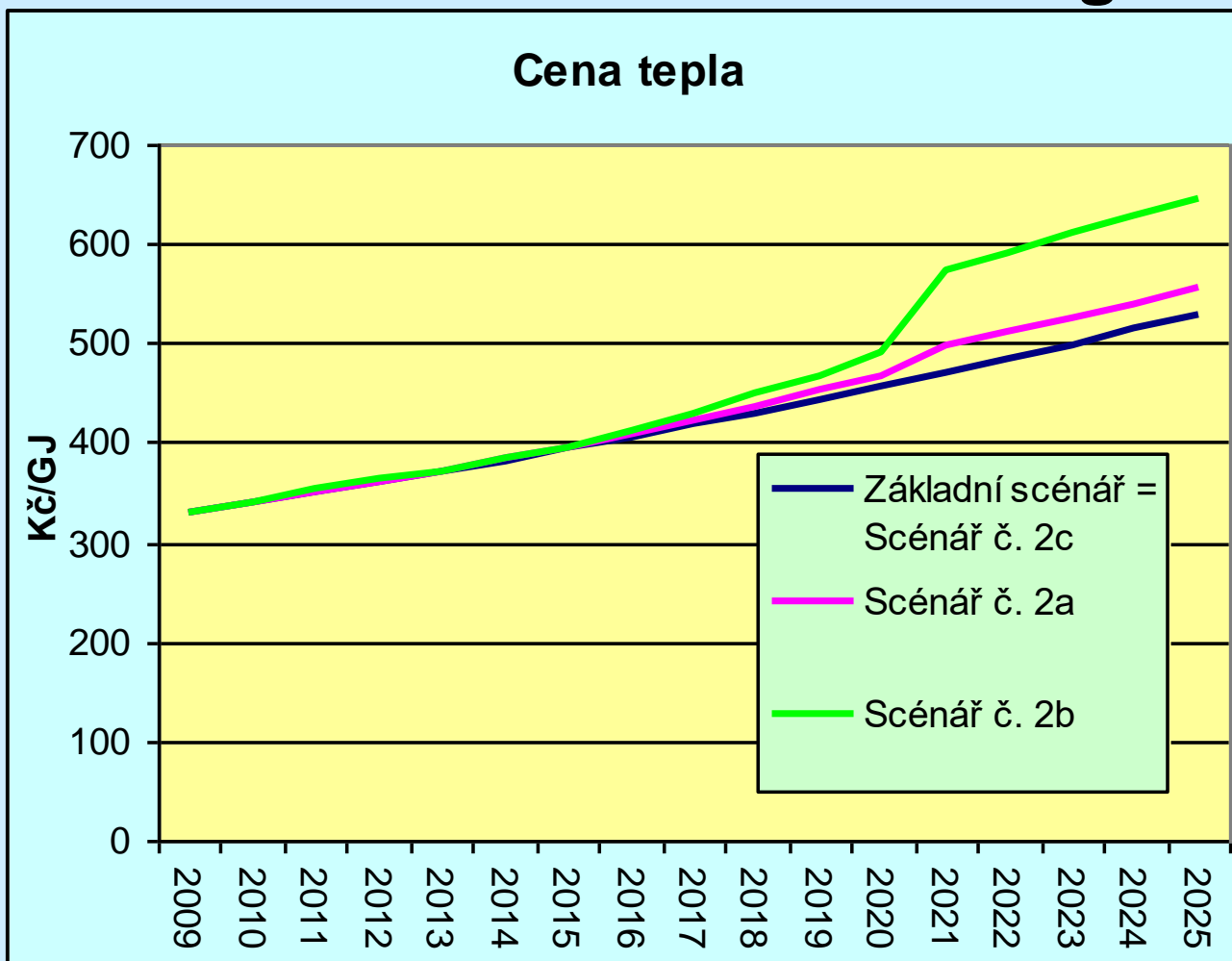


Impact of the emission charges increase



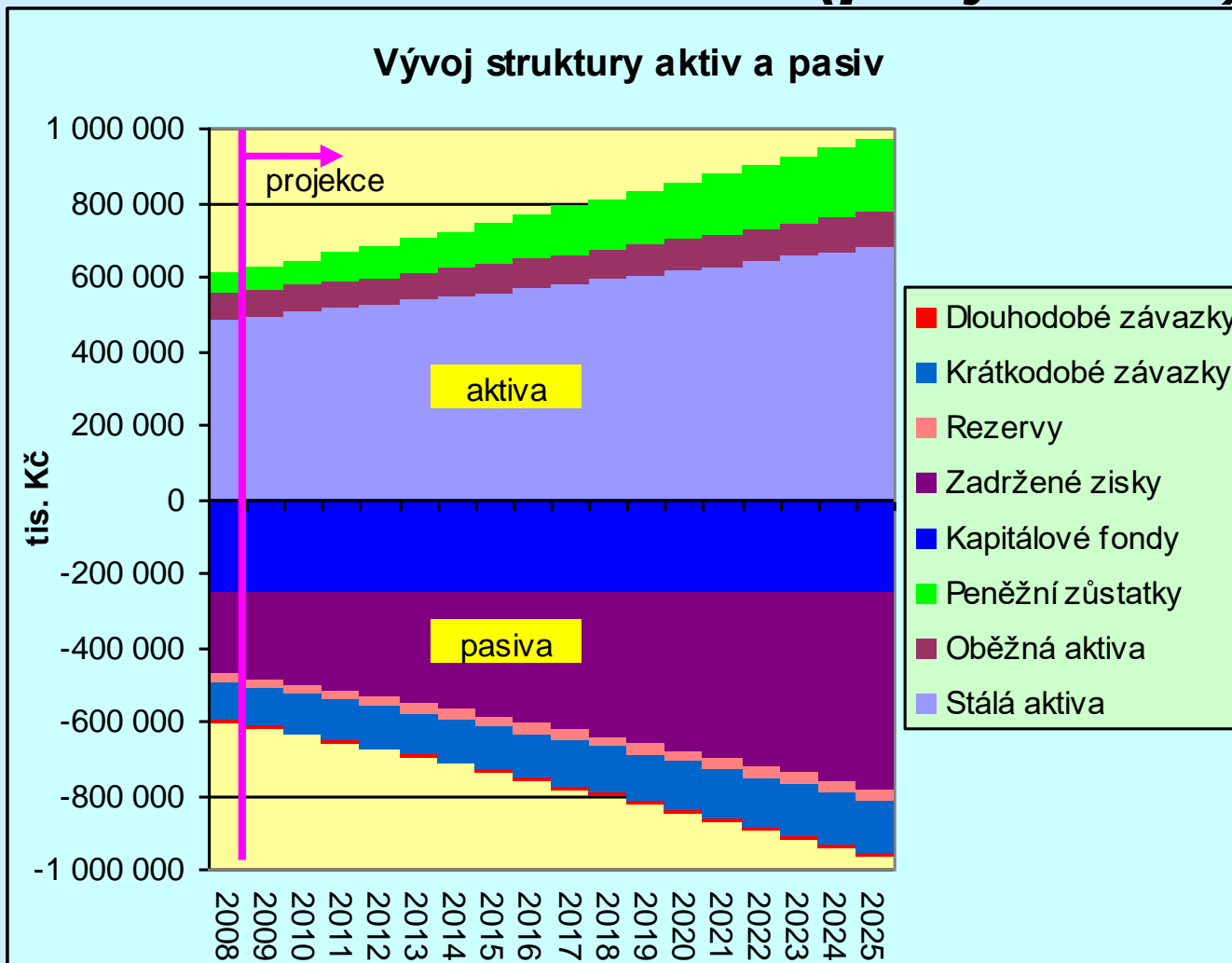


Heat price increase due to emission charges increase



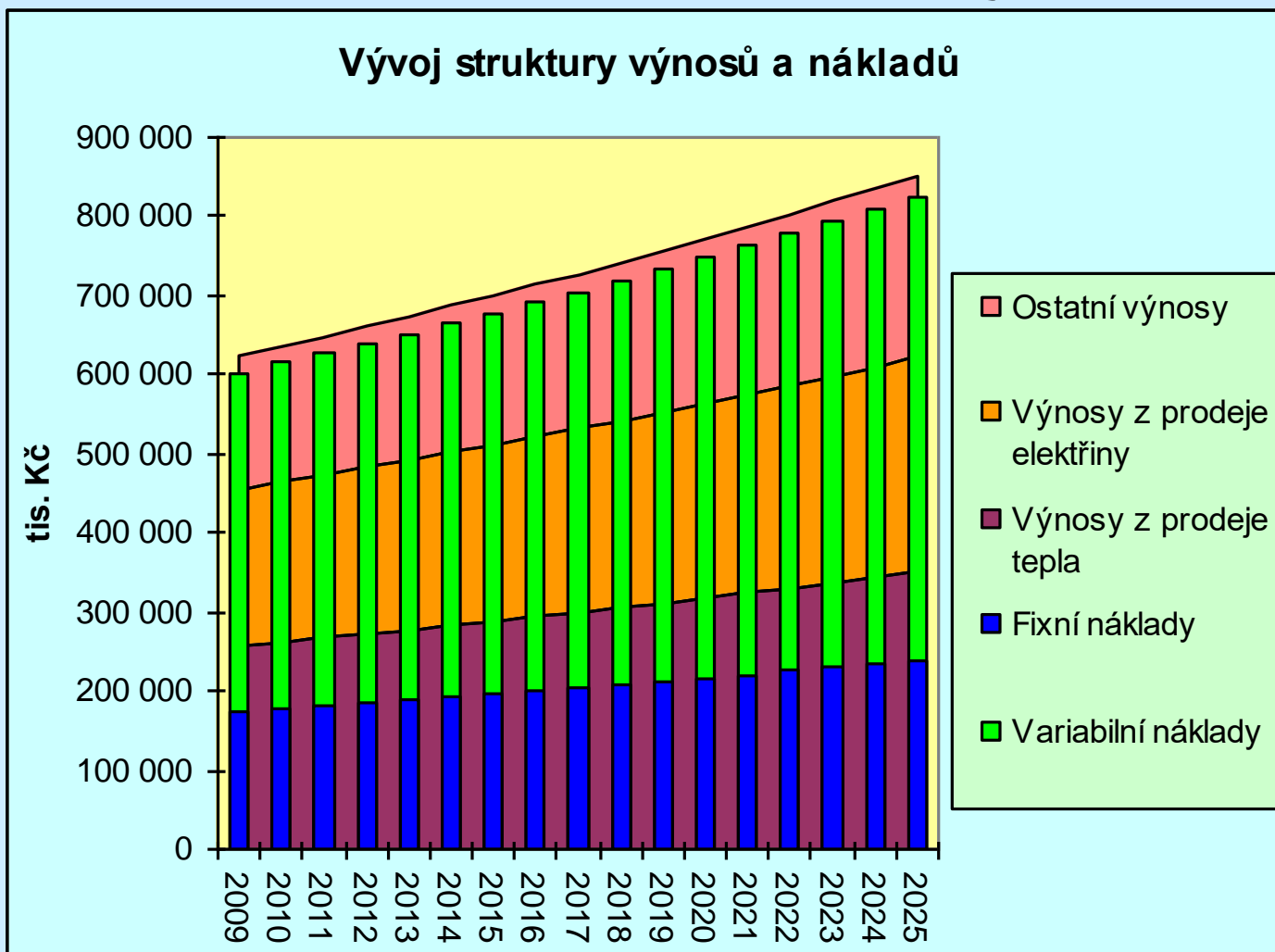


Essets and liabilities (projection)



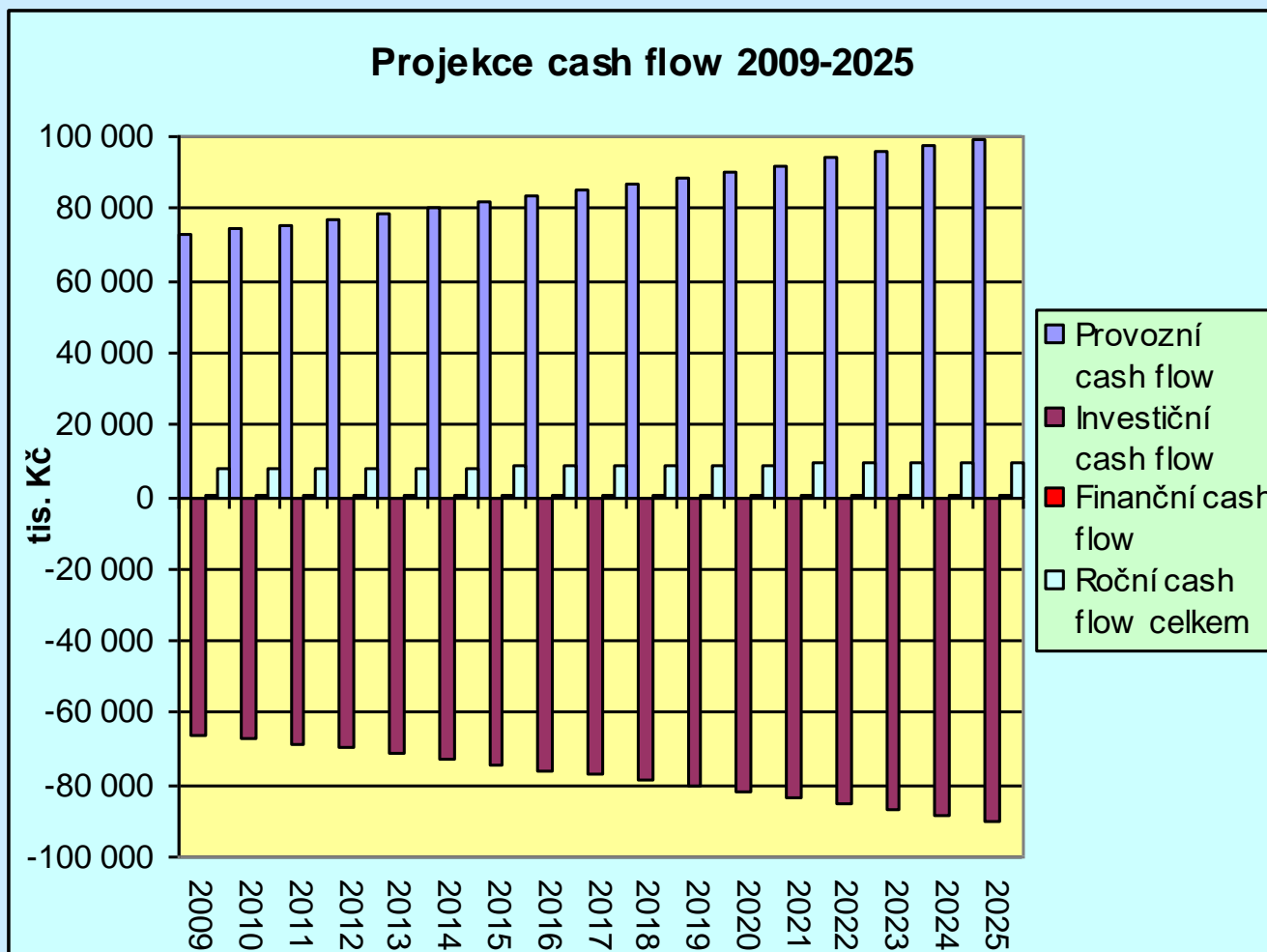


Expenditures and costs (projection)





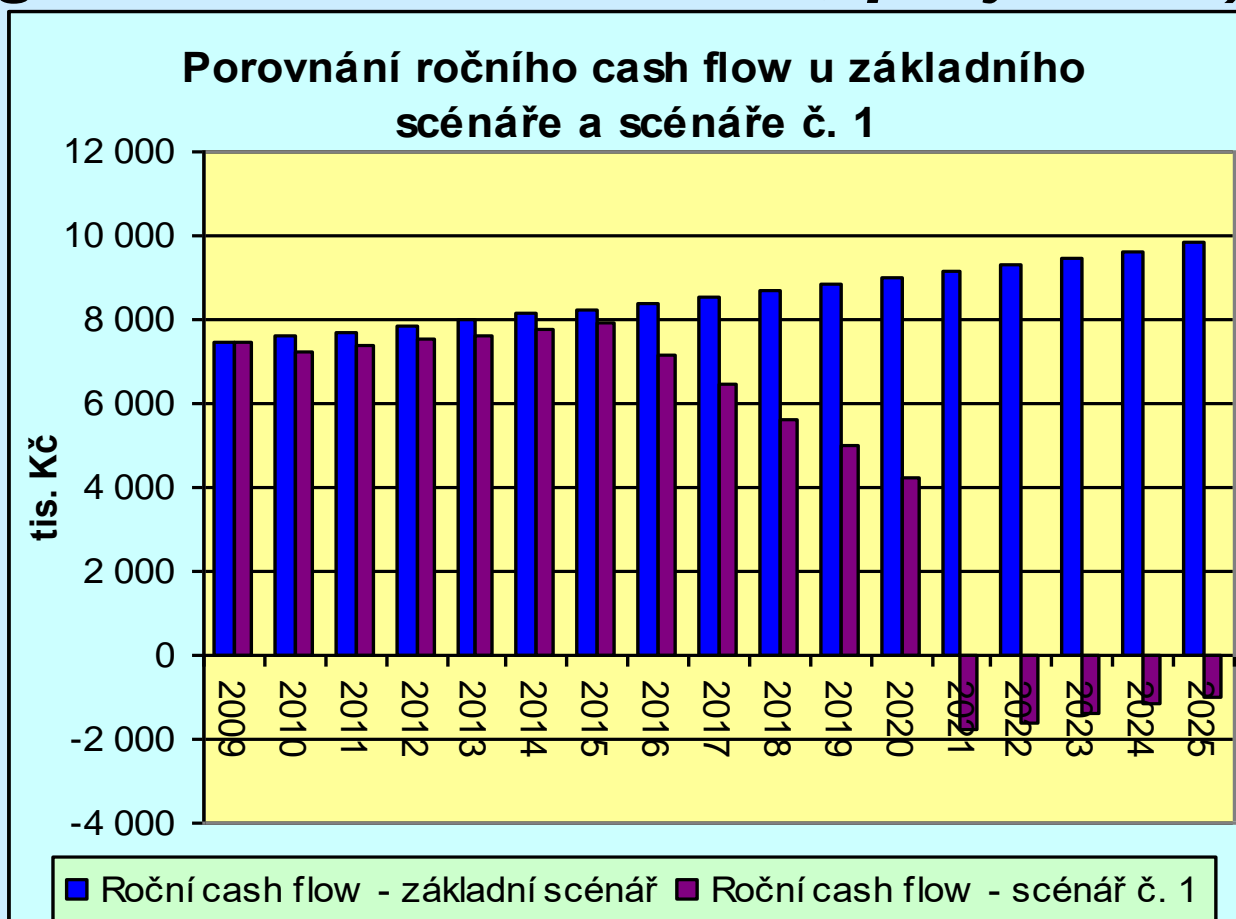
Cashflow in the company (base scenario; projection)





Cashflow in the company

(charges increased scenario; projection)





To sum up

- New team and product forming at the IREAS and University of Economics, Prague
- Team aimed at:
 - Support of the decision making and strategy planning of the energy sector companies
 - Support of the regional air quality conceptions (Cooperation with the chemical-technology Uni)
 - other ideas....
- Product advantages:
 - Exact attempt to the company or locality (public authority)
 - Deep knowledge of the Czech and EU legislation, prepared changes, academic research paper etc.,
 - Support in scenario preparation (probable input values for the modelling issues and scenario building)
 - Individual approach and high model flexibility (particular cost items)



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