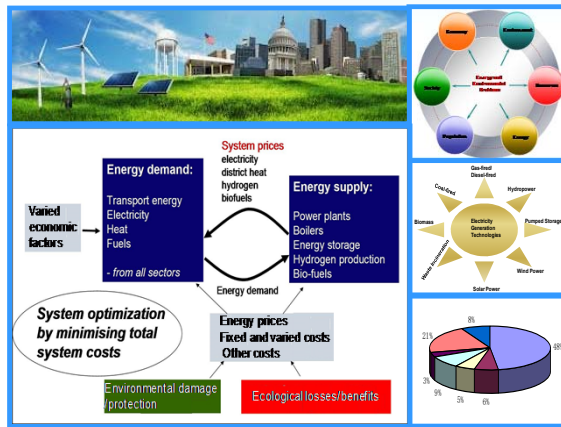


Energy Systems Planning Based on Fuzzy Inexact Programming

Energy systems planning is pervaded with multiple uncertainties. An effective approach addressing those uncertainties is desired for supporting energy systems planning. Hu's efforts are focusing on the development of energy systems planning models under uncertainties, which can help allocate energy resources and assign energy activities in an economically efficient and environmental friendly manner.

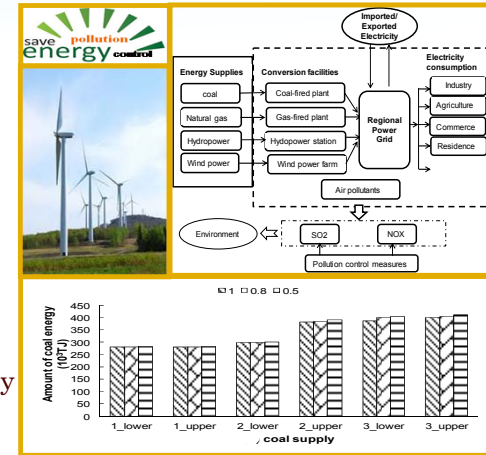
Complexities During Energy Systems Planning

- Complexities Embed Within Energy Systems, such as Dynamics, Uncertainties, Interactivities, Multiple Objectives and So on
- Uncertainties from the Process of Models Formulation, Including Uncertainties During Data Collection, and Uncertainties Generated by the Models



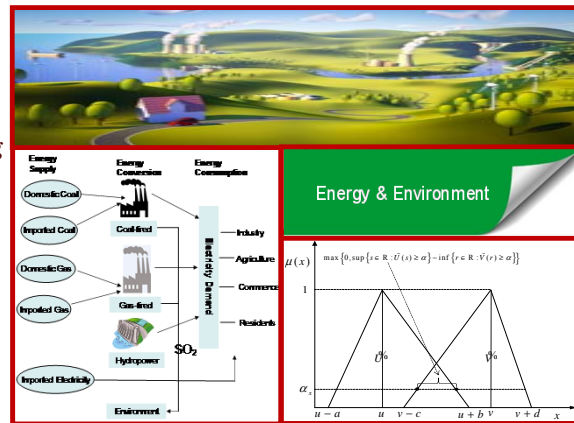
Energy and Environmental Systems Planning

- Feasibility Based Inexact Models for Regional Energy and Environmental systems Planning Under Dual Uncertainties
- Energy Saving and Emission Reduction in Power Generation Side Using Inexact Chance-constraint Programming
- Energy and Environmental Systems Planning with Recourse Under Consideration of the Varied Electricity Demand



Lower-side Attainment Based Inexact Fuzzy Models

- Development of A Lower-side Attainment Based Fuzzy Interval Model For Regional Electric Power Systems Planning
- Planning of Electric Power Generation Systems under Multiple Uncertainties and Constraint-Violation Levels
- An Inexact Two-stage Stochastic Programming for Limited Electricity Allocation



Typical Cases

- Energy Planning in Jilin Province: Providing Decisions Related with Energy Supply, Capacity Expansion for Energy Conversion Technologies, Electricity Generation, Heat Supply and Pollutant Mitigation
- Electric Power Systems Planning in Beijing: Generating Alternatives about Fossil Fuels Supply, Capacity Expansions for Electricity Generation Technologies, Electricity Generation and Pollutants Mitigation

