Abstract

Introduction

General Explanation of the main problem and introduce the different approachs. Explaining the prinicipal mathematics used in the paper to introduce the following sections properly. Explaning the Generous and Stingy versions of the spot price. (Generous $->$ *dispatched generators are paid the unit price of the most expensive loaded generator = spot price, Stingy* $->$ *each competitor receives as a unit price for his services the amount charged by himself ?)*

In a wholesale electricity market ruled by a bidding mechanism where all generators want to maximize their profit but are supervised by a system operator that wants to minimize social expenses, strategies optimising a companie's profit are complicated problems. In Fampa's paper, he presents two different approaches to the problem: The first is an heuristic technique considering a generous dispatching. The second is a MIP that he will use to find the optimal solution and validate the heuristic approach. In this paper we'll introduce a MIP variant which considers that a competitor can use his generators as a group instead of an instance and therefore translate the problem in a linear one. *Maths*

Presentation of the different approachs

Present Fampa's approaches using heuristics and MILP and summerizing Main paperwork.

Using Benpo with MILP

Explaining why putting Benpo under MILP is not a good idea. Introducing the solution apported by Labb's Team.

MIPF (Researcher's paper work)

Summerizing the idea behind the proposition

Proposition

Formal Proposition

Demonstration

Formal Demonstration

MIPF Implementation with python

Explaining the Code used to implement The researcher's MILP

Discussion of the Results and different methods

Use Fampa's results and compare them with the results obtained with our implementation and same data input. General conclusion and open debate on how to maybe complete this paper or how it's final.