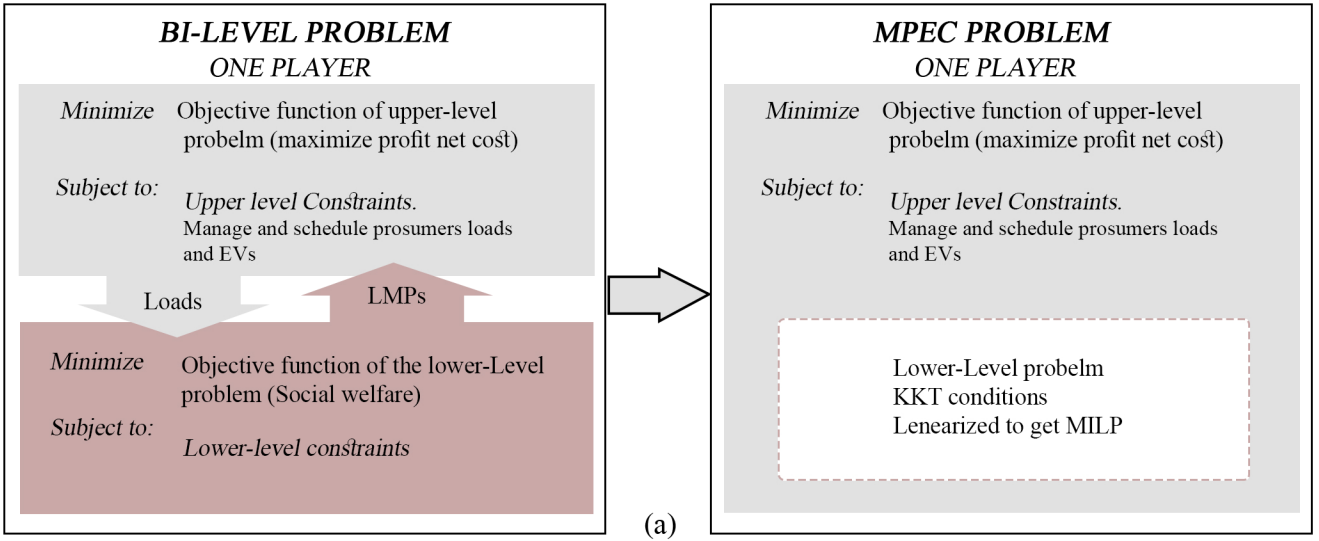
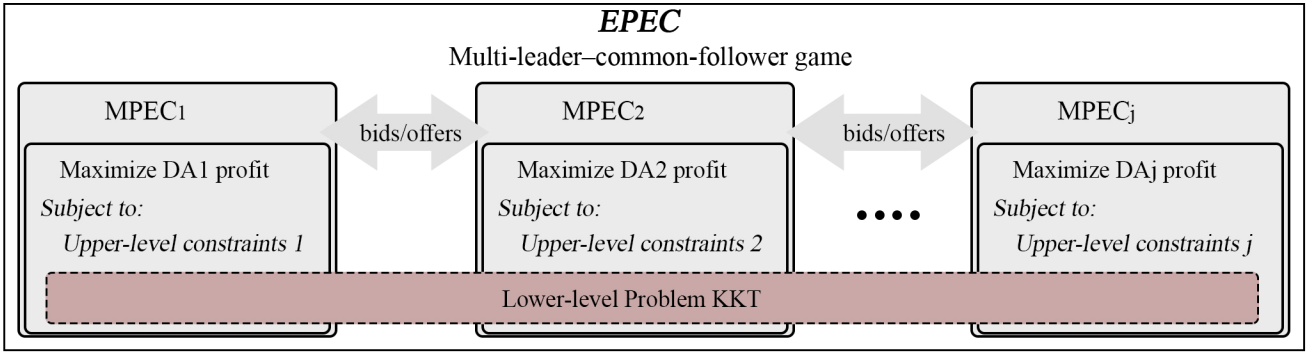

BI-LEVEL PROBLEM
ONE PLAYER
Minimize
Objective function of upper-level probelm (maximize profit net cost)
Subject to:
Upper level Constraints.
Manage and schedule prosumers loads and EVs
Loads
LMPs
Minimize
Objective function of the lower-Level problem (Social welfare)
Subject to:
Lower-level constraints
MPEC PROBLEM
ONE PLAYER
Minimize
Objective function of upper-level probelm (maximize profit net cost)
Subject to:
Upper level Constraints.
Manage and schedule prosumers loads and EVs
Lower-Level probelm
KKT conditions
Lenearized to get MILP

(a)


EPEC
Multi-leader–common-follower game
MPEC1
Maximize DA1 profit
Subject to:
Upper-level constraints 1
bids/offers
MPEC2
Maximize DA2 profit
Subject to:
Upper-level constraints 2
bids/offers
MPECj
Maximize DAj profit
Subject to:
Upper-level constraints j
Lower-level Problem KKT

(b)