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# REGULATOR'S PERSPECTIVE ON DEMAND SIDE FLEXIBILITY OPTIONS

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# Emerging Need for Grid Flexibility

Demand Side Flexibility: Capacity to react to market signals by modifying energy consumption

Developed Markets:

- Increasing renewable penetration
- Little/no demand growth
- Diminishing conventional production
- Free market/unfettered price signal
- System/grid/investment efficiency
- Peak adequacy

Result: Flexible load can be tapped to provide grid flexibility

# Emerging Need for Grid Flexibility

Turkish Case:

- Increasing renewable penetration (both large scale and distributed)
- Historically strong demand growth
- Geography limits crossborder interconnection capabilities
- Regions with high energy surplus/deficits, large land mass on east-west axis

Result: Interest in energy storage and demand side flexibility

- Energy Law 6446 is amended to allow energy storage and demand side participation as unlicensed market activities

# Regulator's Roadmap

- Assessing demand side potential

Load profile evaluation

Metering data & communications adequacy evaluation

Defining actors & market barriers

Pilot projects (Large and household scale)

- Optimizing strategy

Decision on placing DSF within energy market framework

Promote DSF awareness

Decide on incentives (if any)

- Evaluate Results

# Demand Side Facilitation in Energy Markets

- Day Ahead Market

Implicit, price based, retailer driven

Better, more granular bidding types

Hourly, spot price dependent contracts should be available

Time-of-use, critical peak tariffs as options

- Balancing Power Market & Ancillary Services

Aggregator driven model, explicit&direct, activation based

Aggregators required for their know-how, min bid size req, fees, comms, household participation

Load control, FCR, aFRR, curtailable service

Third Party Aggregators: Need remuneration scheme for retailers (no financial risk for retailers) Balance responsibility should be redefined.

# Demand Side Feasibility: Turkish Case

## Present Situation:

Strong non-volatile MCP, cheap ancillary services

## Short term DS Prospects

As FCR&aFRR providers

Frequency control through prosumers (may be tariff based)

## Long term DS prospects

Peak adequacy

Investment deferrals

Congestion management

Strategic reserve capacity

# THANK YOU FOR YOUR ATTENTION!

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