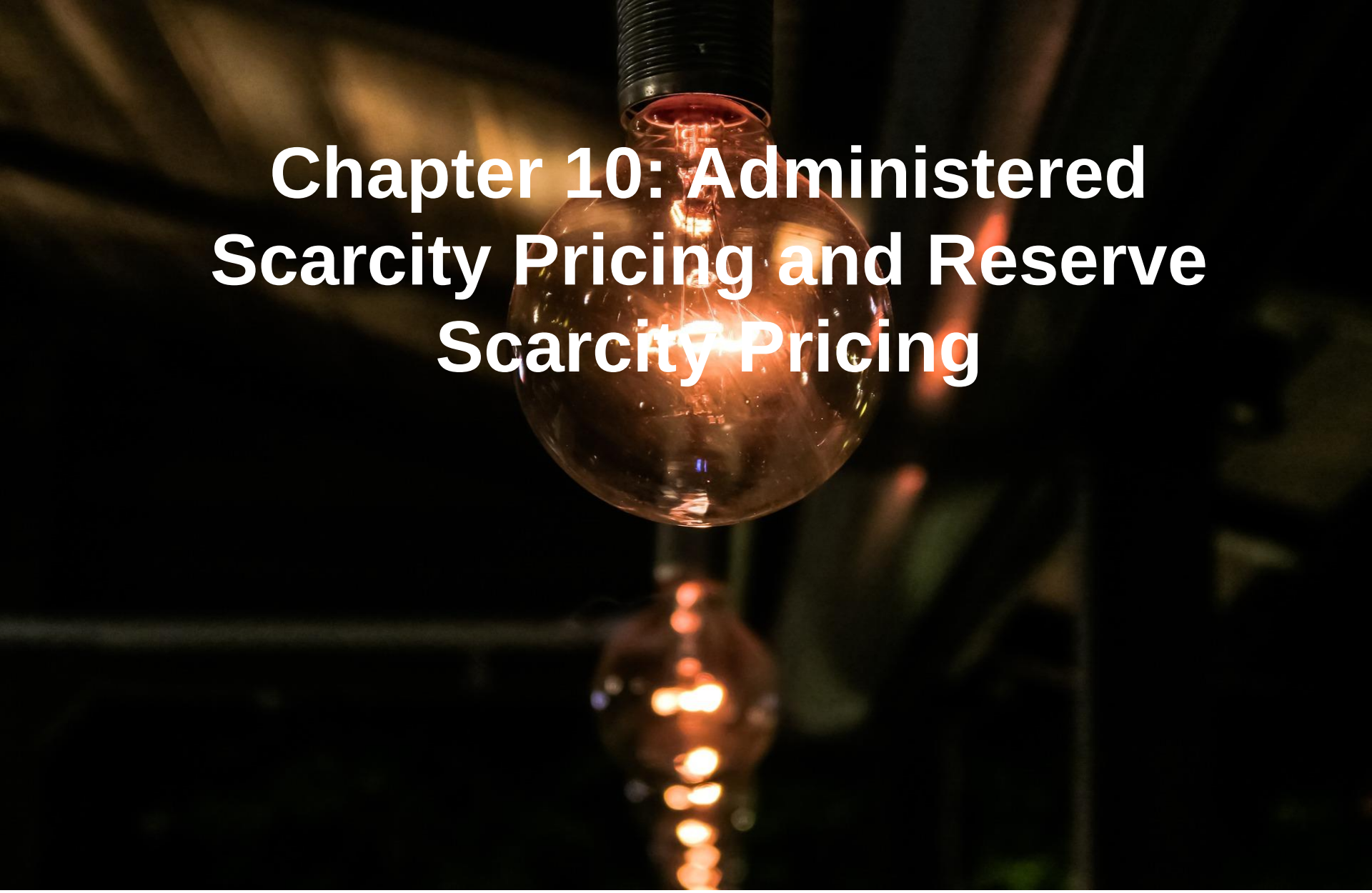


Chapter 10: Administered Scarcity Pricing and Reserve Scarcity Pricing

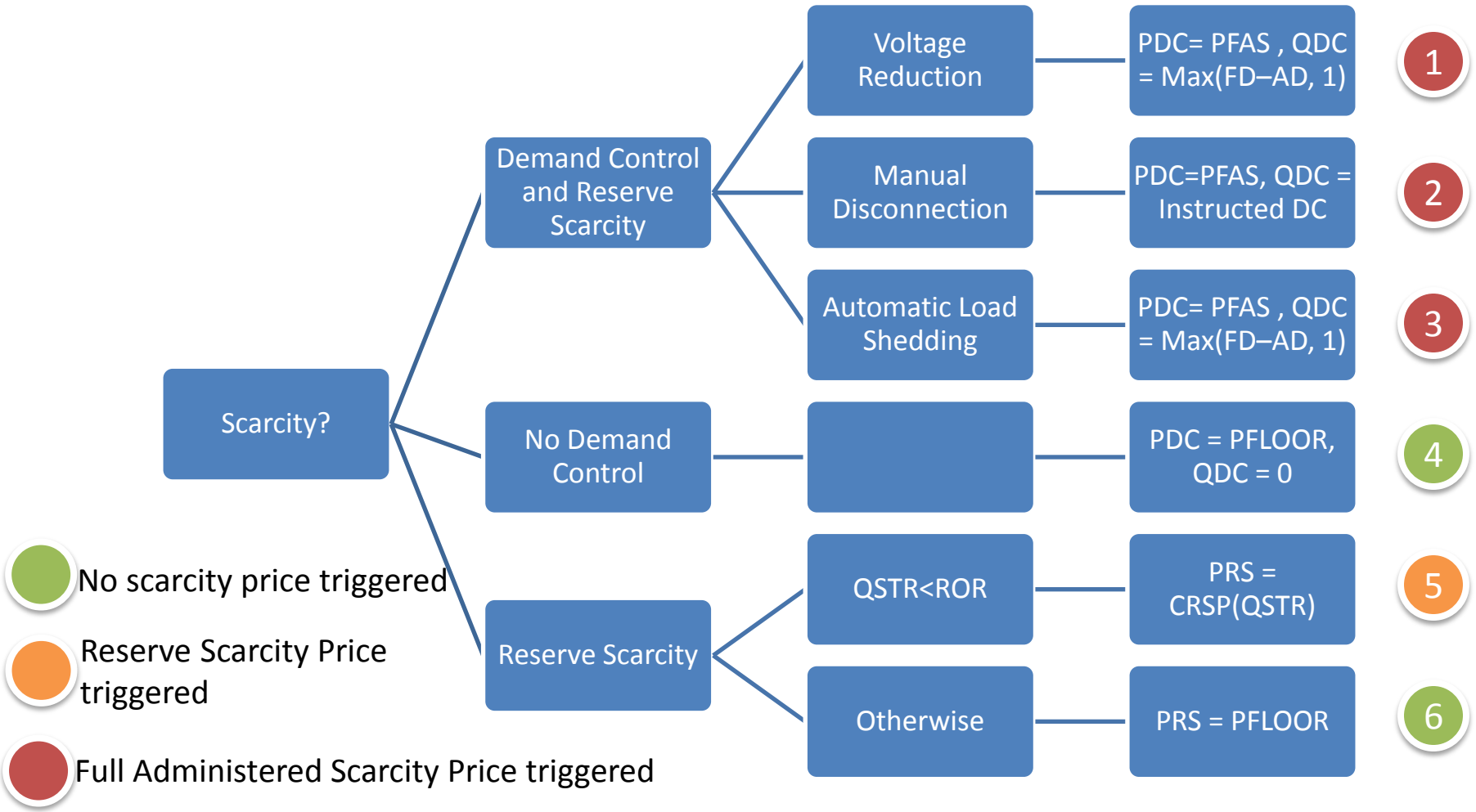
ASP and RSP

- The purpose of the Administered and Reserve Scarcity Pricing functionality is to ensure that the price reflects the cost and value of power in times of scarcity, in case the market prices and normal pricing process may not reflect this;
- It was introduced in particular to enhance the Capacity Market performance incentives:
  - This price sets the Price Floor at times of system stress (for example, reserve shortfall or load-shedding) to a much higher price than would normally be expected in the balancing market, but which should be reflective of the cost of scarcity in such times.
- There are two main considerations for this functionality:
  - How the functionality is triggered; and
  - How the price is derived when it is triggered.

ASP and RSP

- The times that the functionality is triggered is related to stress on the system, in particular:
  - When load shedding occurs; or
  - Where shortfall in short term reserves occurs.
- The main input for determining the price at times that the functionality is triggered is an RA determined Reserve Scarcity Curve, which reflects what the price should be at different levels of reserve scarcity;
- Reserve scarcity is where the volume of short term reserves actually being provided is less than the volume required for them;
- The following slide summarises the instances where the functionality is triggered, and the resulting administered pricing outcome.

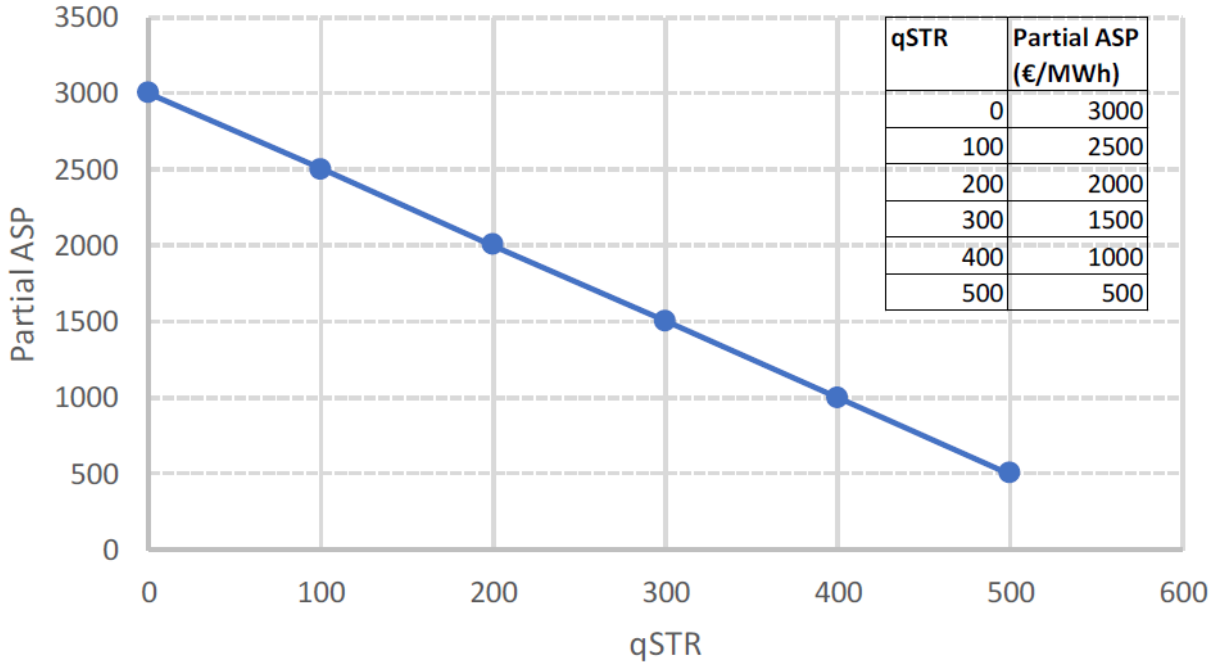
ASP and RSP


Scarcity?
Demand Control and Reserve Scarcity
No Demand Control
Reserve Scarcity
Voltage Reduction
Manual Disconnection
Automatic Load Shedding
QSTR<ROR
Otherwise
PDC= PFAS , QDC = Max(FD–AD, 1)
PDC=PFAS, QDC = Instructed DC
PDC= PFAS , QDC = Max(FD–AD, 1)
PDC = PFLOOR, QDC = 0
PRS = CRSP(QSTR)
PRS = PFLOOR
1
2
3
4
5
6
No scarcity price triggered
Reserve Scarcity Price triggered
Full Administered Scarcity Price triggered

ASP and RSP

RAs have decided what the curve will look like for I-SEM go-live (from RA CRM Parameters Decision):

5



qSTR	Partial ASP (€/MWh)
0	3000
100	2500
200	2000
300	1500
400	1000
500	500

ASP and RSP

- The Full Administered Scarcity Price (PFAS) can be triggered for Demand Control triggered in either Ireland or Northern Ireland jurisdictions;
- However to ensure that it is only triggered for system-wide events rather than local jurisdiction events, there is a “double-lock”, where this approach only applies when there is both Demand Control / a frequency event in either jurisdiction, AND a system-wide reserve scarcity event;
- When both of these occur, the Demand Control Price (PDC) is set equal to the PFAS, and a Demand Control Quantity (QDC) is calculated for inclusion in the Ranked Set;
- The following slides show which events can result in Demand Control, and how their volume and prices are determined and used.

ASP and RSP

- Any of the following events can trigger the demand control (when reserve scarcity is present):
  Voltage Reduction:
  - Customer Voltage Reduction in Northern Ireland,
    - in accordance with section OC4.4.5 of the Northern Ireland Grid Code,
  - Emergency or Exceptional Voltage Control in Ireland,
    - in accordance with OC4.4.6 of the Ireland Grid Code,

- Automatic Load Shedding:
  - Automatic Load Shedding in Northern Ireland,
    - in accordance with section OC4.4.8 of the Northern Ireland Grid Code,
  - Automatic Low Frequency Demand Disconnection in Ireland,
    - in accordance with section OC5.5 of the Ireland Grid Code,

- Planned or Emergency Manual Disconnection:
  - Planned or Emergency Manual Disconnection in Northern Ireland,
    - in accordance with section OC4.4.6 of the Northern Ireland Grid Code,
  - Demand Control on the instructions of the TSO in Ireland,
    - in accordance with section OC5.4 of the Ireland Grid Code.