

# Harmonised Ancillary Services & Other System Charges

## Consultation Paper Briefing Session

**SONI/EirGrid**

24<sup>th</sup> June 2009

# Agenda

- 1. TSOs Introduction**
- 2. Regulatory Authorities View**
- 3. Consultation Paper - Structure**
- 4. Ancillary Services Rates**
- 5. Other System Charges**
  - Trips & SNDs**
  - Generator Performance Incentives**
- 6. Next Steps**

# Briefing Objective

To supplement the consultative process by providing an overview, to interested parties, of the proposals set out in the current TSO consultation paper.

These proposals are based on the RAs' Decision Paper for future Harmonised Ancillary Services, published in January 2009.

They are also the conclusion of several previous TSO consultation papers over the past two years.

# Briefing Opportunities

- To re-state the proposed sections of the current TSO Rates Consultation paper regarding future Harmonised Ancillary Services.
- For Market Participants and other stakeholders to seek clarity regarding the implementation of the proposed sections.
- For the TSOs and the RAs to listen to and understand the views of stakeholders.
- To encourage consultation responses from stakeholders after the briefing session if not already submitted.

# EirGrid / SONI Ancillary Services Briefing Session

Andrew Ebrill, Manager, CER

Dundalk, 24<sup>th</sup> June 2009

# Background

- Ancillary Services are not paid for in energy market but are needed for secure operation of the system.

E.g. reserve, reactive power

- Currently treated separately and differently in RoI & NI
- Similarities: paid by demand customers with cost of c. 0.14 c/kWh in RoI (TUoS) & 0.13 c/kWh in NI (SSS levy)

Northern Ireland	Republic of Ireland
System Support Services (SSS)	Ancillary Services (AS) Generator Short Notice Re-declaration Charges Generator Trip/Fast Wind-down Charges

# Background

- Sept. '06: Following consultation, due to similar costs, RAs decided that separate regimes for AS could continue for SEM go-live without major market distortion.
- Paper also agreed to review future treatment of AS on island for longer-run.
- Aug. '07: SOs published Consultation Paper, with RA approval, on various policy options for long-run AS harmonisation across island.

# Background

- Feb '08: SEMC published high level design framework for all-island AS:
  - Unbundled AS Products
  - Regulated approach for payments to gens rather than tender/market
  - Charges for underperformance
  - Trip/SND charges applied to gens
  - Incentivise compliance by gens with key Grid Code areas
  - Socialisation of costs in each jurisdiction



# Background

- Industry workshops in April/May '08 held by SOs to discuss detailed implementation
  - => SO Consultation Paper published in September
  - => SO Briefing Session in October
  - => SEMC decision on detailed AS arrangements published in Jan '09 - largely as per consultation

# SEMC AS Arrangements

- Payment principles for reserve, reactive power, black start: regulated, fixed rates, charges for underperformance
- No increase in current AS allowance for harmonisation
- No new AS for go-live, but SOs to examine for future
- SND & Trip charges - earlier/lower the better!
- Gen Testing Charges - consultation due soon
- Generator Performance Incentives provided for
- Go-live 1<sup>st</sup> October

# Next Steps

- SOs' June Consultation Paper sets out proposed rates/charges/values in keeping with principles already set out.
- Comments welcome by 6<sup>th</sup> July.
- SEMC Decision Paper in late Aug.
- Go-live on 1<sup>st</sup> October.

# Harmonised Ancillary Services & Other System Charges

## Consultation Paper - Structure

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# Paper Structure: Outline

## Key Sections:

- Ancillary Services Rates
- Trips & Short Notice Declarations Charges Rates
- Generator Performance Incentive Charges (incl. Rates)

## Other Sections

- Rates Framework
- Implementation Progress
- Future Developments

# Paper Structure: Excluded from this Consultation

Generator Testing – Subject to separate consultation

Secondary Fuel – Subject to a separate consultation

Reserve Causation – Policy underdevelopment

# Paper Structure: Focus of Consultation

Section	Proposed Sections
3.3	Exchange Rate
4.2	Harmonised AS Rates
4.2.1	AS Rates
4.2.2	Alternative Replacement Reserve Option
5.1.1	Empirical Trip Constants
5.1.2	Empirical Trip Charge Rates
5.2.1	SND Notice Time Weight
5.2.2	Empirical SND Rate
6.3	GPI Charge Rates

# Harmonised Ancillary Services & Other System Charges

## Proposed Exchange Rate

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# Proposed Exchange Rate

- Require an annually set exchange rate.
- Proposal to base on Forward Point calculation.
- Rate in paper €1/£0.85
- May be amended as a result of consultation which will affect rates in paper.

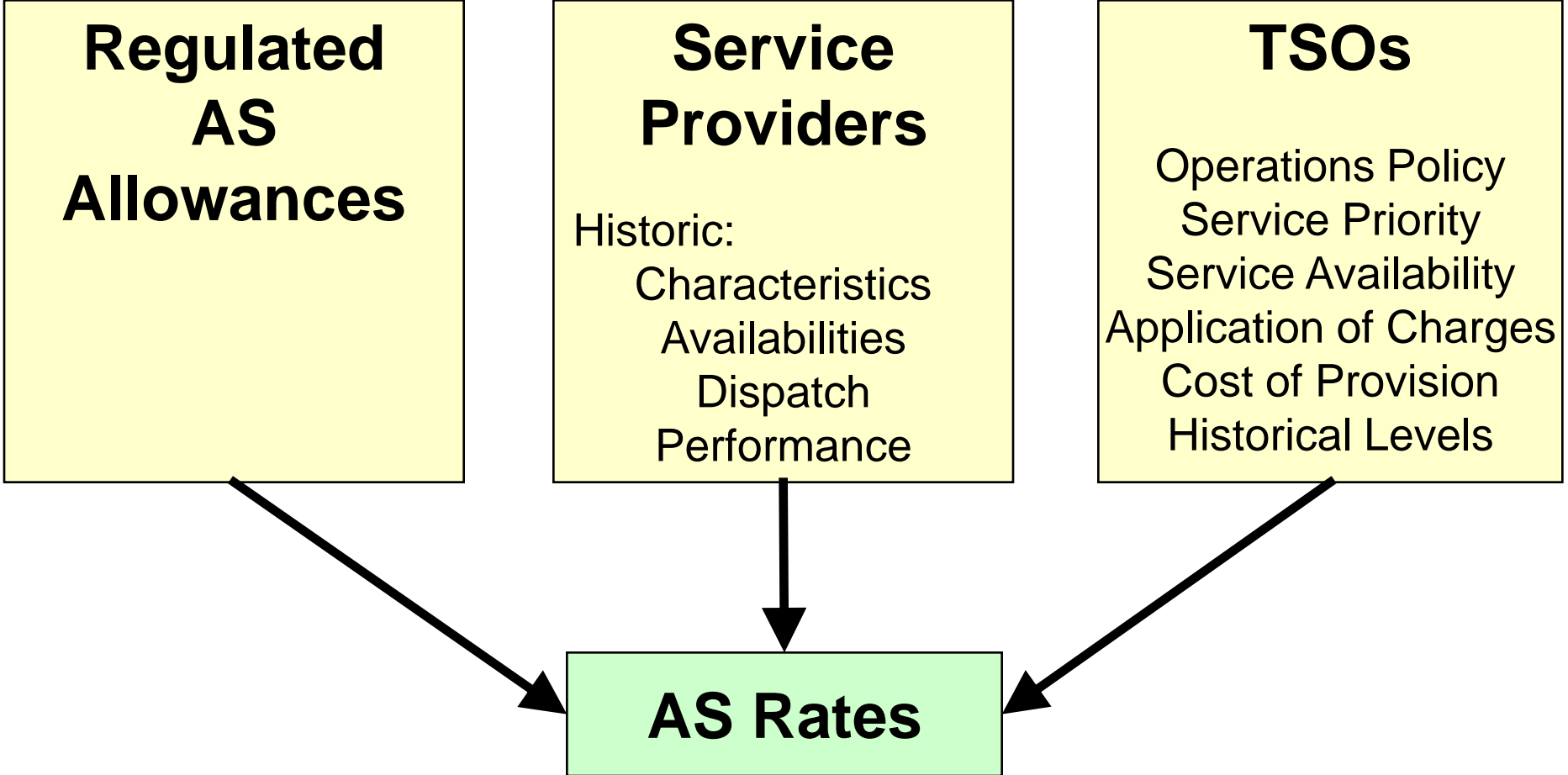
# Harmonised Ancillary Services & Other System Charges

## Proposed AS Rates

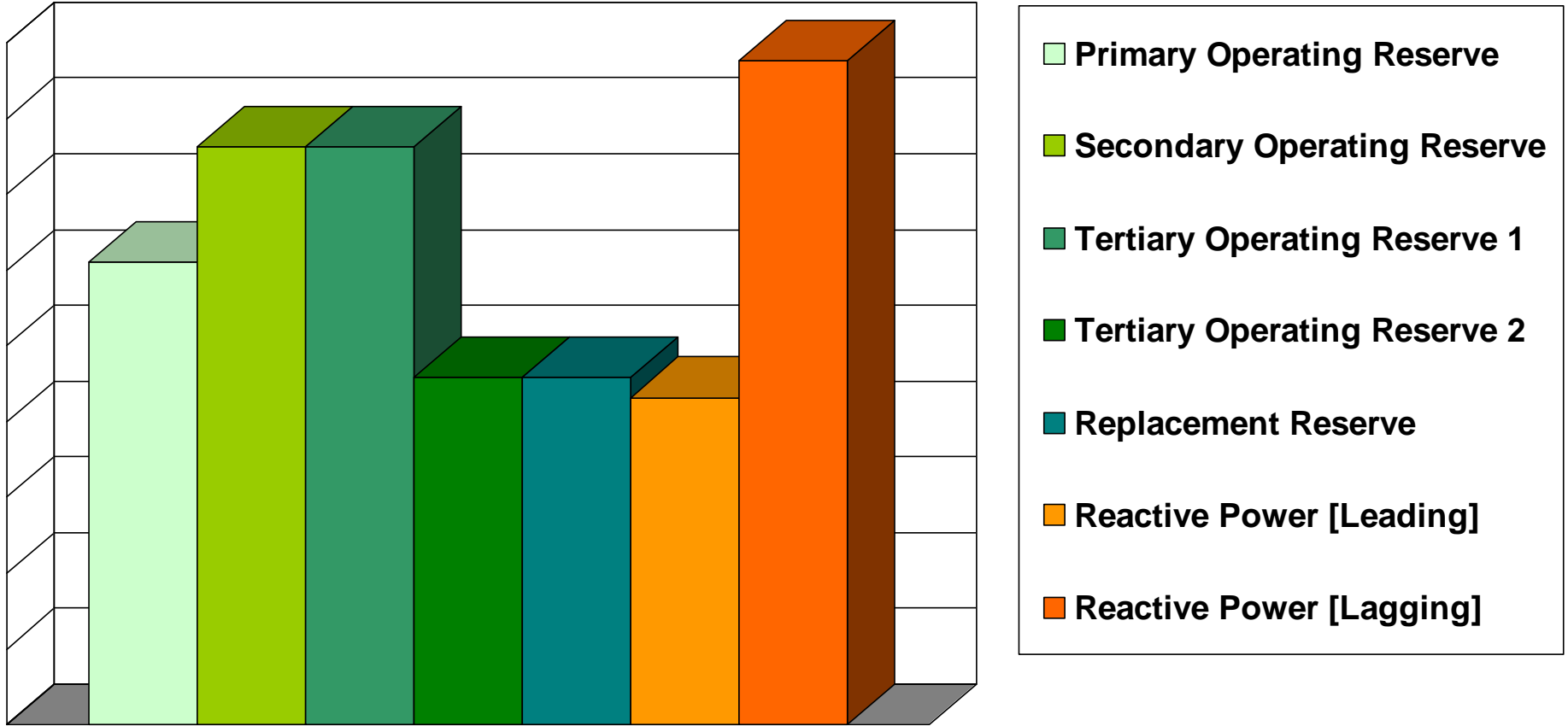
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# Proposed AS Rates: Input to Setting Rates

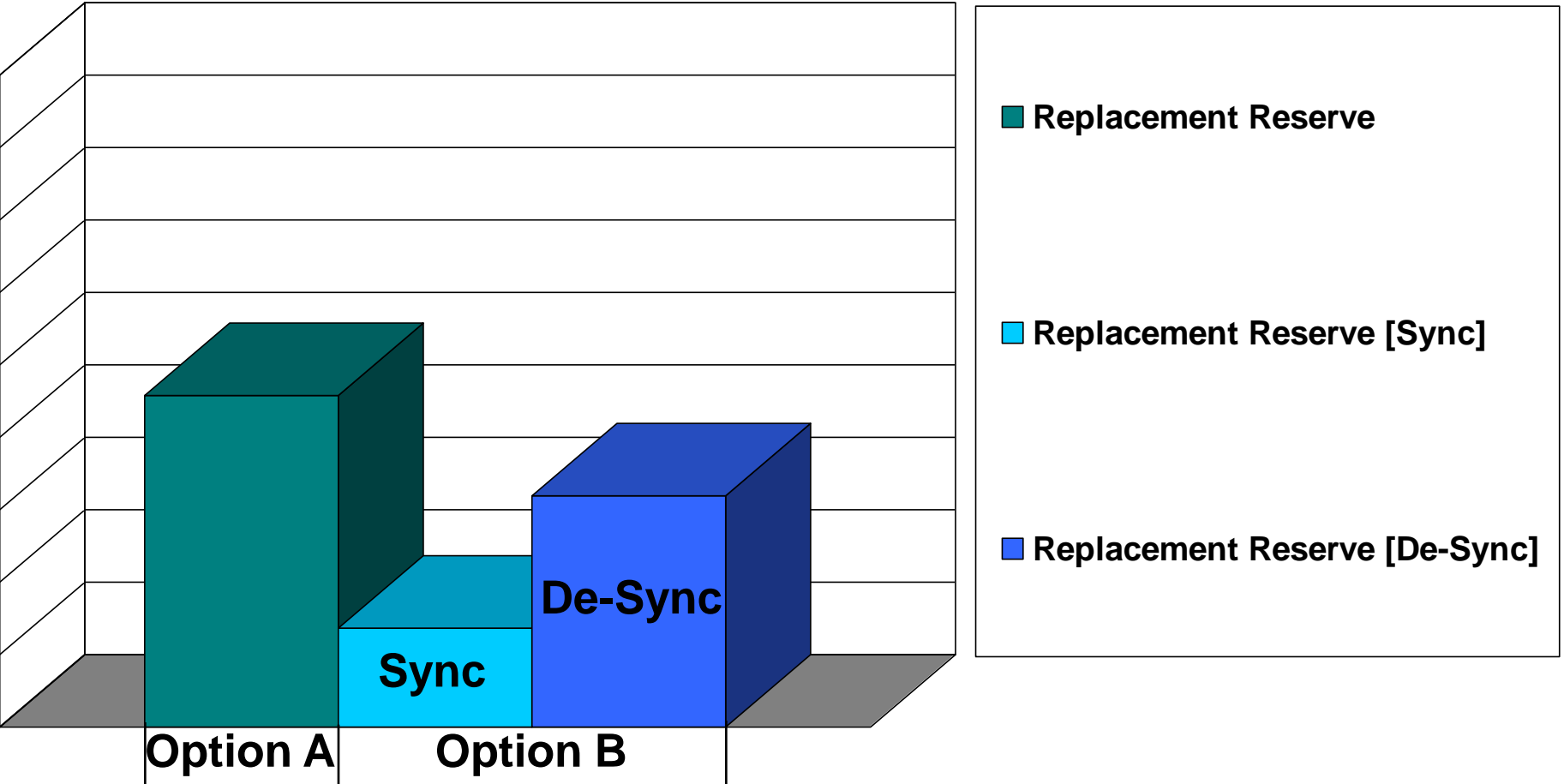


# Proposed AS Rates: Breakdown of Expenditure



**Excludes Black Start, Demand Side & Interconnector**

# Proposed AS Rates: Alternative Replacement Reserve Option



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## Proposed Trips & SNDs Rates

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# Trips & SNDs: Incentives behind the Charges

## Trips

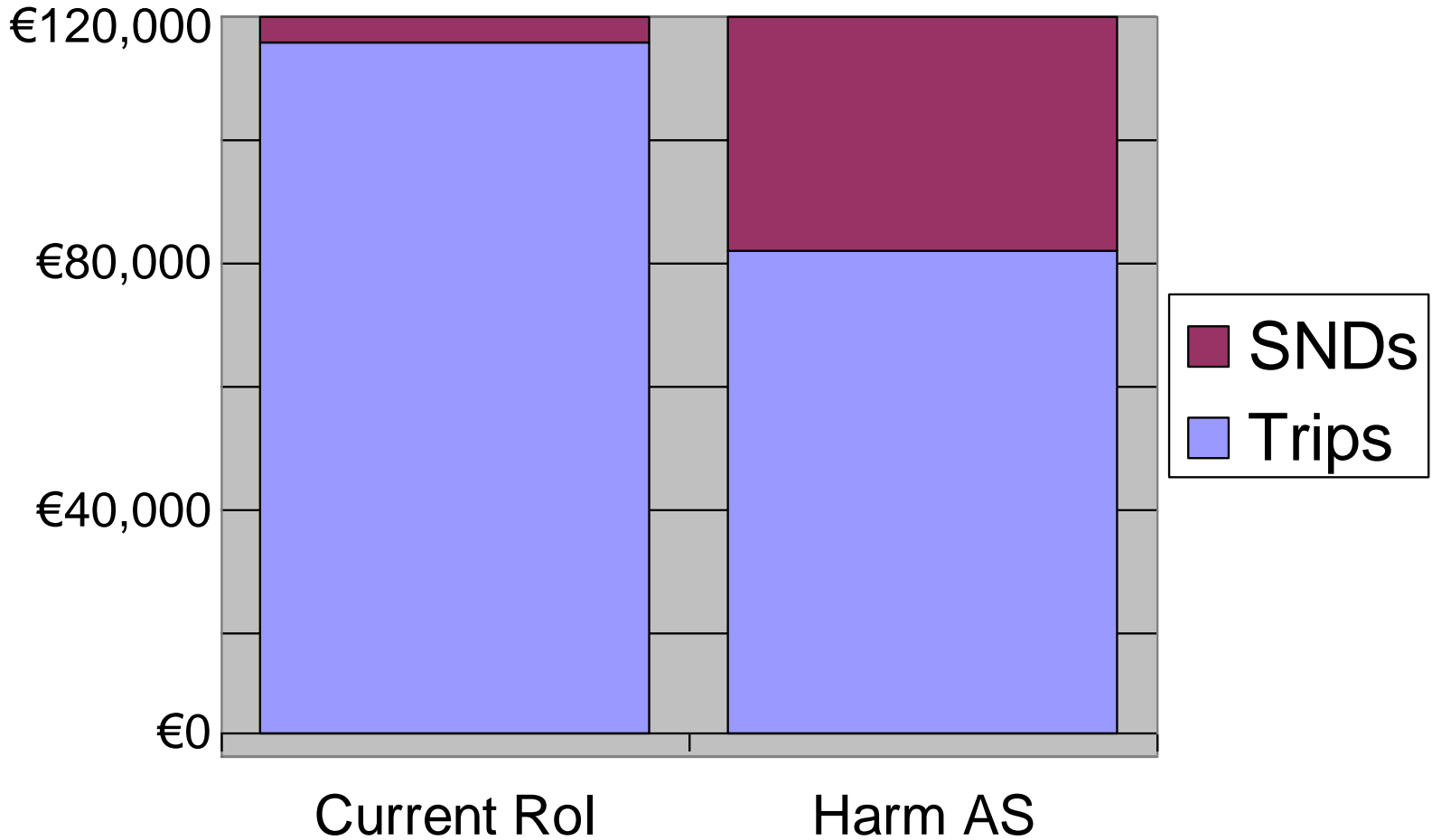
**Minimise Occurrence**  
**Minimise MW Loss**  
**Slow Down Rate of Loss**

## SNDs

**Avoid Re-declarations of MW  
at short notice**  
**Give maximum possible notice**

# Trips & SNDs: Basis for Charge Rates

400 MW Unit (used as starting point for rates)





# Trips, Fast Wind-Downs & Slow Wind-Downs

Trip Type	Rate of MW Loss	Trip Charge Formulae
Direct Trip	$\geq 15$ MW/s	$= \text{DT Charge Rate} * \text{EXP}(\text{DT Constant} * \text{MW Loss})$
Fast Wind Down	$\geq 3$ MW/s & $< 15$ MW/s	$= \text{FWD Charge Rate} * \text{EXP}(\text{FWD Constant} * \text{MW Loss})$
Slow Wind Down	$< 3$ MW/s	$= \text{SWD Charge Rate} * \text{EXP}(\text{SWD Constant} * \text{MW Loss})$

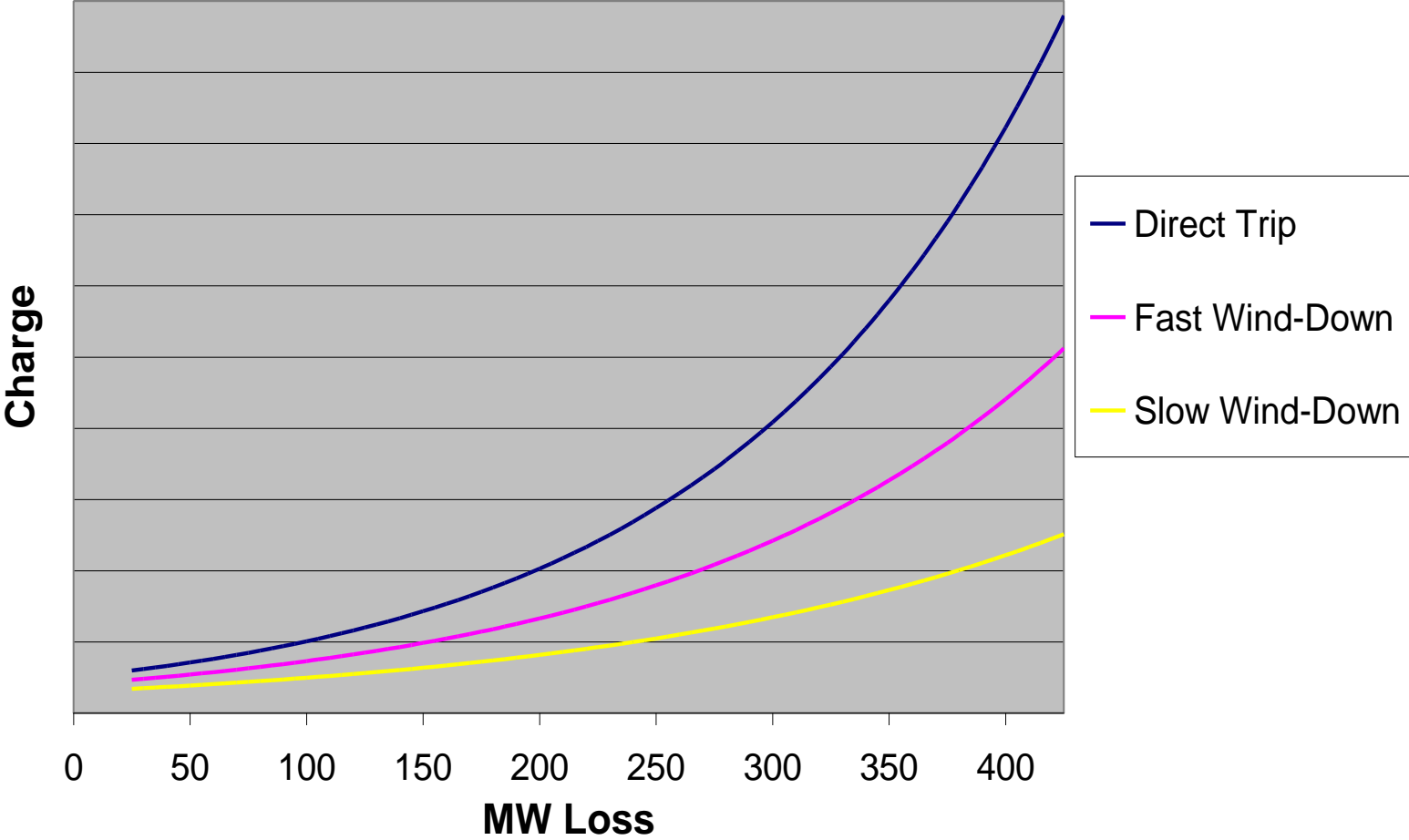
Consulting on empirical **Rate** and **Constant**

# Trips, Fast Wind-Downs & Slow Wind-Downs

Trip Type	Rate of MW Loss	Trip Charge Formulae
Direct Trip	$\geq 15$ MW/s	= DT Charge Rate * EXP( <b>0.007</b> * MW Loss)
Fast Wind Down	$\geq 3$ MW/s & $< 15$ MW/s	= FWD Charge Rate * EXP ( <b>0.006</b> * MW Loss)
Slow Wind Down	$< 3$ MW/s	= SWD Charge Rate * EXP ( <b>0.005</b> * MW Loss)

Consulting on empirical **Rate** and **Constant**

# Trips, FWDs & SWDs: Effect of Trip Constants

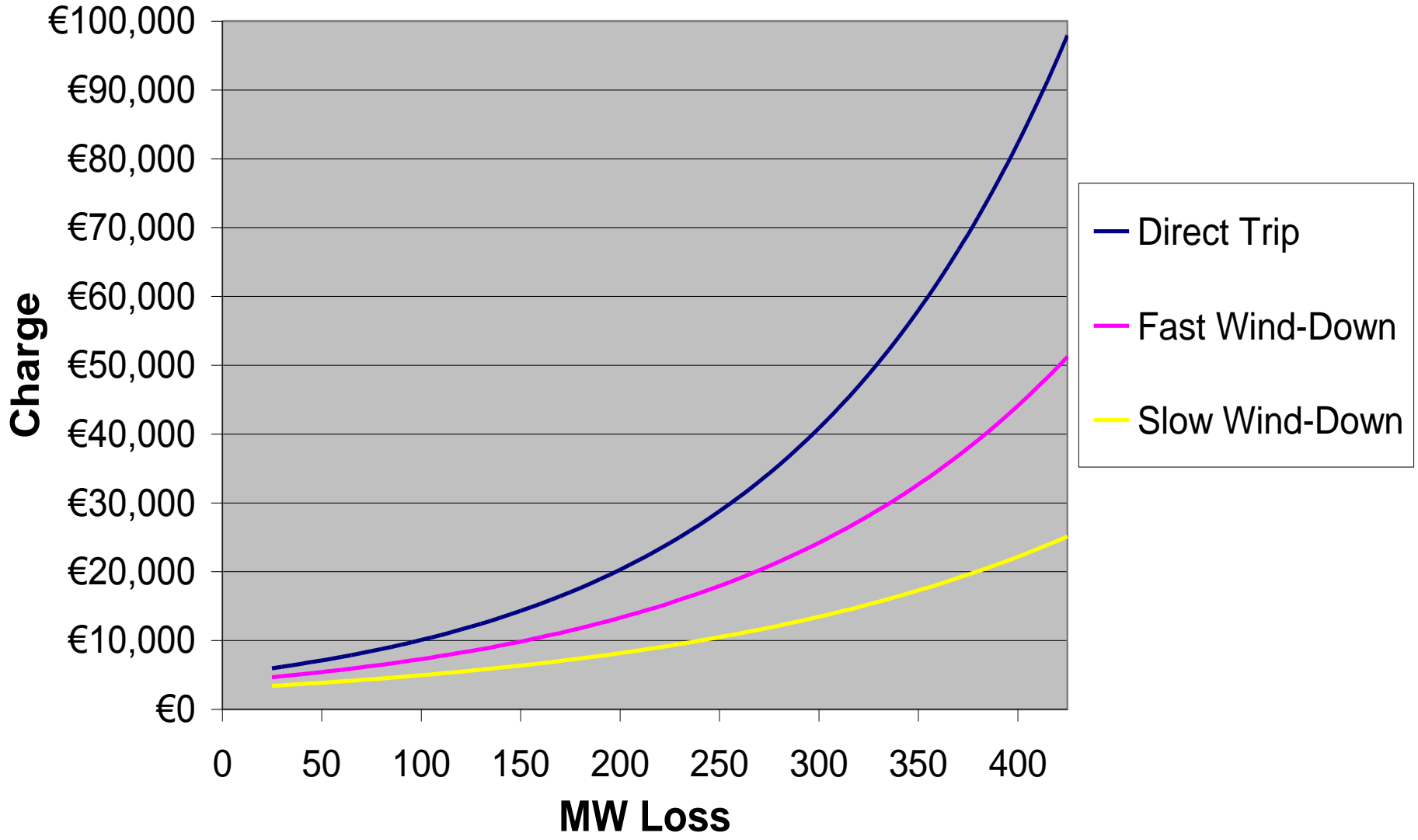


# Trips, Fast Wind-Downs & Slow Wind-Downs

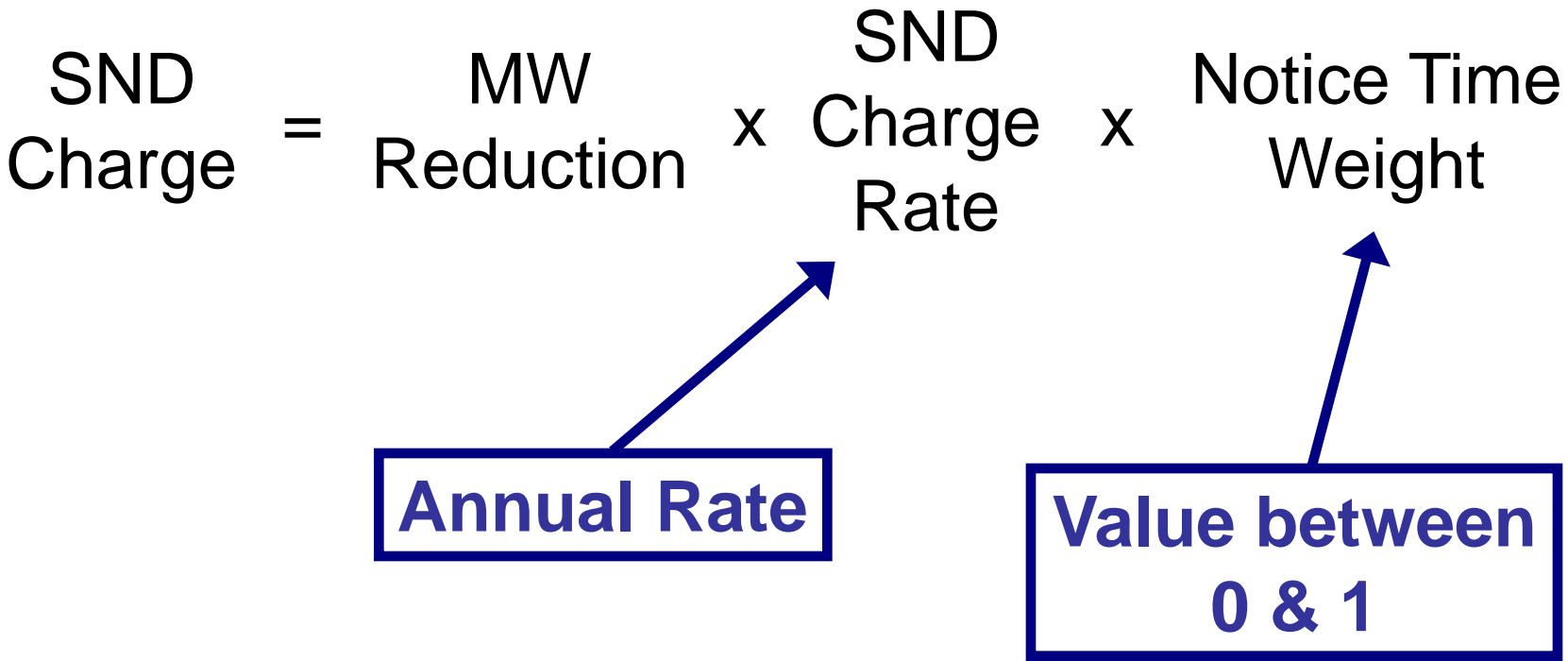
Trip Type	Rate of MW Loss	Trip Charge Formulae
Direct Trip	$\geq 15$ MW/s	$= \text{€}5,000 * \text{EXP}(0.007 * \text{MW Loss})$
Fast Wind Down	$\geq 3$ MW/s & $< 15$ MW/s	$= \text{€}4,000 * \text{EXP}(0.006 * \text{MW Loss})$
Slow Wind Down	$< 3$ MW/s	$= \text{€}3,000 * \text{EXP}(0.005 * \text{MW Loss})$

Consulting on empirical **Rate** and **Constant**

# Trips, FWDs & SWDs: Combined Effect of Constants & Rates



# Short Notice Declaration Charges: Formula

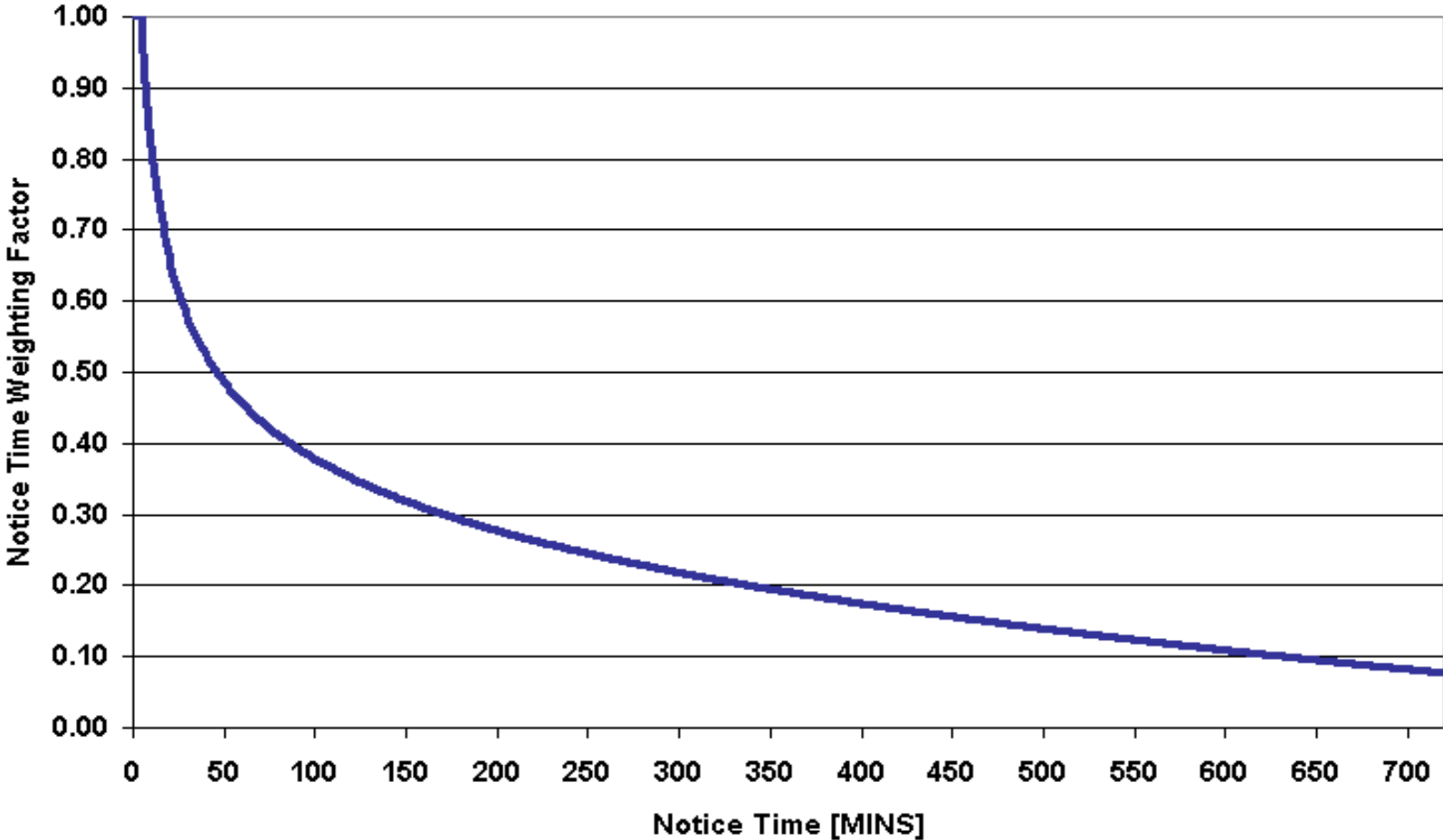


# SND Charges: Proposed Rate

$$\begin{array}{l} \text{SND} \\ \text{Charge} \\ \text{Rate} \end{array} = \text{€ 100 / £85 per MW}$$

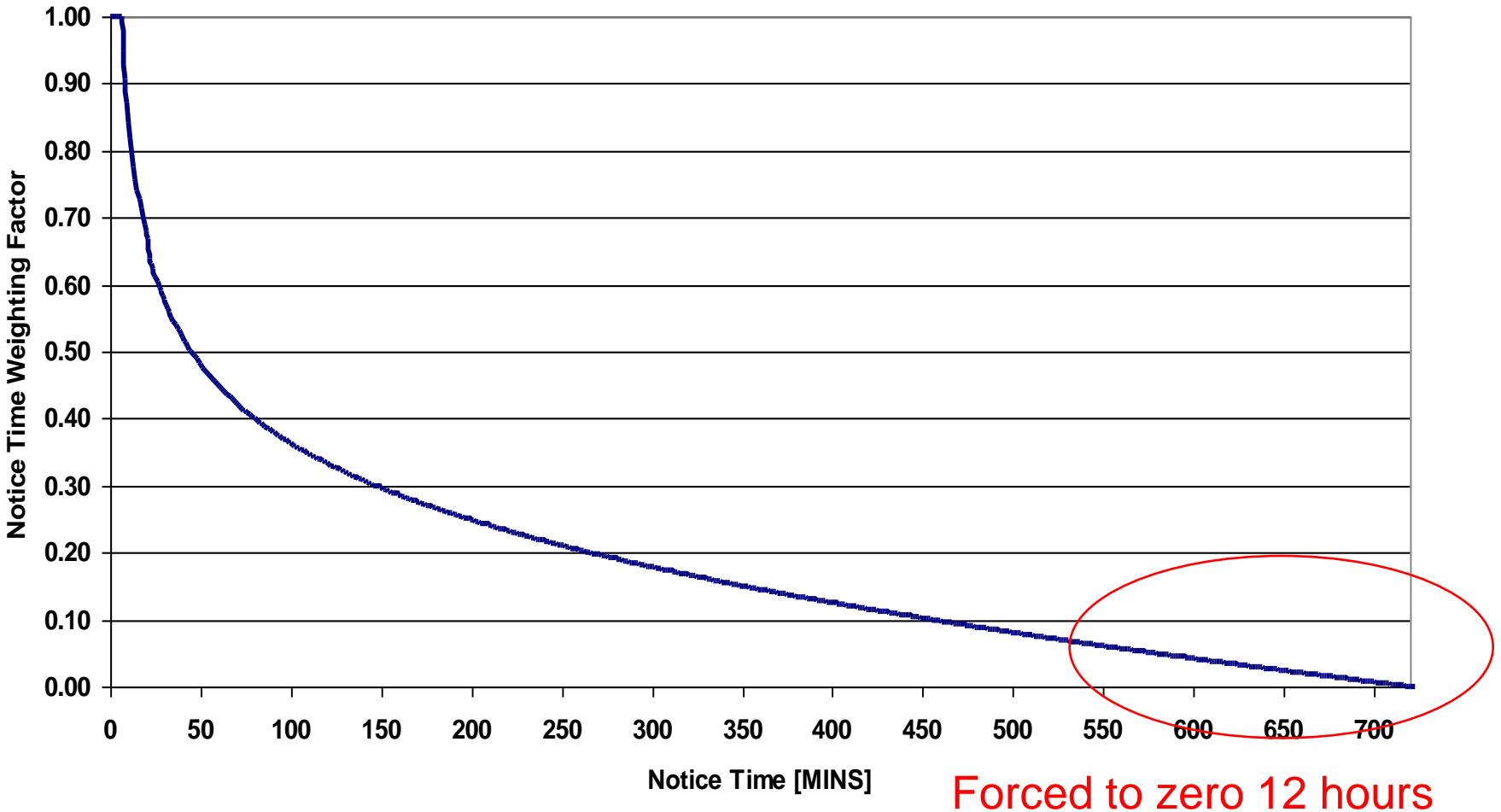
This is an empirical value which was derived from the re-balancing between Trips and SNDs.

# SND Charges: Notice Time Weight





# SND Charges: Proposed Notice Time Weight



Forced to zero 12 hours

# SND Charges: Notice Time Weight

Notice Time [mins]	Notice Time Weight
0 - 5	1
5 - 20	$(NT/5)^{-0.29}$
20 - 720	$(1-(NT/720))x(NT/5)^{-0.29}$

Where NT is Notice Time

# Harmonised Ancillary Services & Other System Charges

## Proposed Generator Performance Incentive Charge Rates

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## GPIs: Selection

- SONI System Support Services Agreement includes wide range of rebates and reduction in availability payments.
- For practical reasons, not all features are retained for initial harmonisation phase.
- Ten of the more important element are retained.
- Charges calculations close as possible to SSSA.

# GPIs: Selection

- 1. Minimum Generation
- 2. Max Starts in 24 hour period
- 3. Minimum on Time
- 4. Reactive Power Leading & Lagging
- 5. Governor Droop
- 6. Operating Reserves
- 7. De-Loading Rate
- 8. Loading Rate
- 9. Early Synchronisation
- 10. Late Synchronisation

Charged on Trading Period  
Based on Declarations,  
Availability & Notice time

Charged on Event

# GPIs: Charge Rates

GPI Charge	SSS-based Rate & Factors	Proposed Harmonised GPI Rate	
Minimum Generation	£ 0.50 /MWh * 2.0	£ 1.00 /MWh	€ 1.18 /MWh
Max Starts in 24 hour period	£ 0.50 /MWh * 1.7	£ 0.85 /MWh	€ 1.00 /MWh
Minimum on Time	£ 0.50 /MWh * 1.7	£ 0.85 /MWh	€ 1.00 /MWh
Reactive Power Leading	£ 0.50 /MVArh * 0.5	£ 0.25 /MVArh	€ 0.29 /MVArh
Reactive Power Lagging	£ 0.50 /MVArh * 0.5	£ 0.25 /MVArh	€ 0.29 /MVArh
Governor Droop	£ 0.50 /MWh * 0.5	£ 0.25 /MWh	€ 0.29 /MWh
Loading Rate	£ 0.50 /MWh	£ 0.5 /MWh	€ 0.59 /MWh
De-Loading Rate	£ 0.50 /MWh	£ 0.5 /MWh	€ 0.59 /MWh
Primary Operating Reserve	£ 0.50 /MWh	£ 0.10 /MWh	€ 0.12 /MWh
Secondary Operating Reserve		£ 0.10 /MWh	€ 0.12 /MWh
Tertiary Operating Reserve 1		£ 0.10 /MWh	€ 0.12 /MWh
Tertiary Operating Reserve 2		£ 0.10 /MWh	€ 0.12 /MWh
Early Synchronisation	£ 0.50 /MW * 4.5	£ 2.25 /MW	€ 2.65 /MW
Late Synchronisation	£ 0.50 /MW * 45	£ 22.50 /MW	€ 26.47 /MW

# Harmonised Ancillary Services & Other System Charges

## Implementation

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# Implementation Phase

- Harmonised AS Agreements
  - Provision & Purchase of Ancillary Services
  - Payment
  - Monitoring & Metering
  - Schedules
    - Definitions
    - Operating Reserve
    - Reactive Power
    - Black Start
    - Billing and Payment Plan
    - Operating Parameters
- Sent draft agreement to CER/NIAUR on 23 June
- Notice to terminate existing SSSA will be issued next week



# Implementation Phase – up to Oct 1<sup>st</sup> 2009

- IT Billing System
  - Separate EirGrid & SONI systems
  - Very challenging timeline
- Legal
  - Signing new contracts with generators (agreeing operational parameters)
  - Communication of minor process changes with station staff (e.g. EDIL)
- Grid Code & TUoS Agreement
  - Minor updates will be required to facilitate new arrangements

## Next Steps

- Consultation concludes 6<sup>th</sup> July 2009
- TSOs review comments received and submit final proposals to the SEM Committee for approval.
- SEM Committee publishes decision paper late August 2009.
- Go-Live 1<sup>st</sup> October 2009

THANK YOU  
&  
SAFE JOURNEY HOME