



MSR 2.0

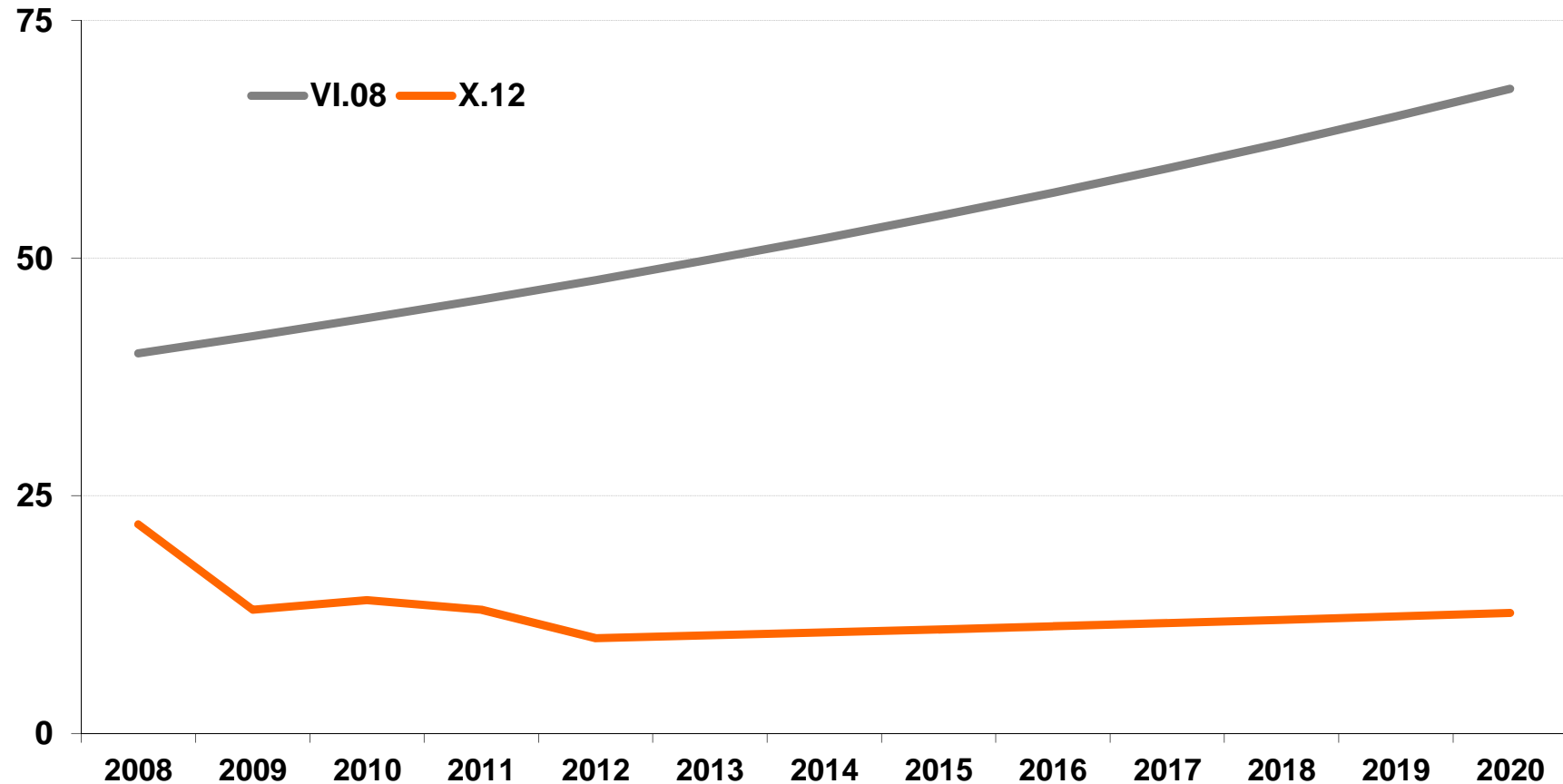
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STABILITY AND PREDICTABILITY OF THE SYSTEM IS CRUCIAL TO INCENTIVIZE NEW LOW CARBON INVESTMENTS



Future EUA dynamics forecasts in 2008 and 2012
EUR/t



AGENDA

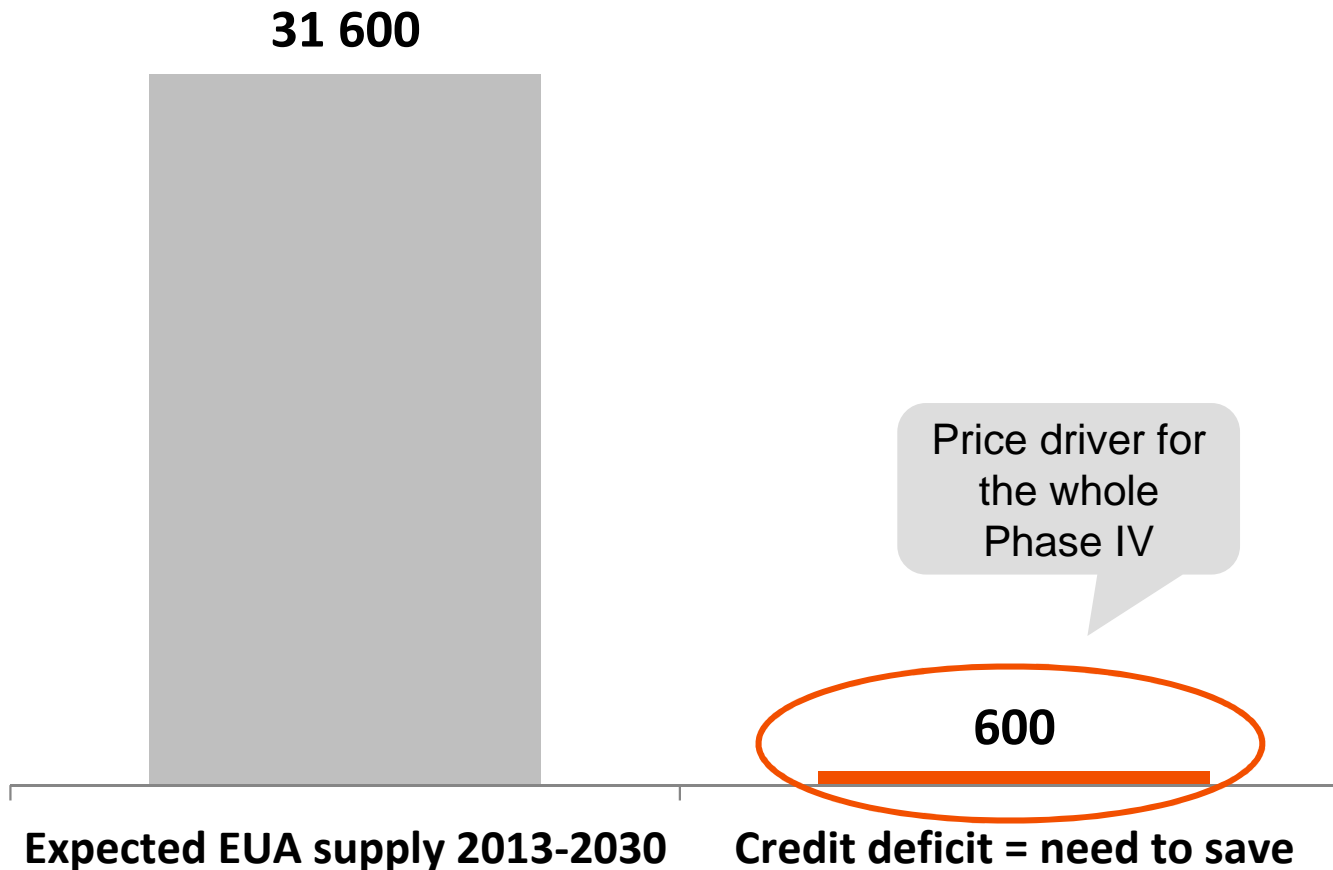


- **Issues with the current MSR design**
- **Solution: MSR 2.0**

EU ETS SUPPLY/DEMAND BALANCE REMAINS VERY FRAGILE EVEN IF THE PROPOSED MSR DESIGN IS IMPLEMENTED



2013-2030 EU ETS market size and supply/demand balance
Mt, BAU



- The expected deficit in 2030 is very small compared with the overall size of the system
- If there is no deficit, there are no savings needed \Rightarrow EUA price falls to zero
- Yearly emissions (2013) are app. 1900Mt \Rightarrow deficit equivalent of less than four months



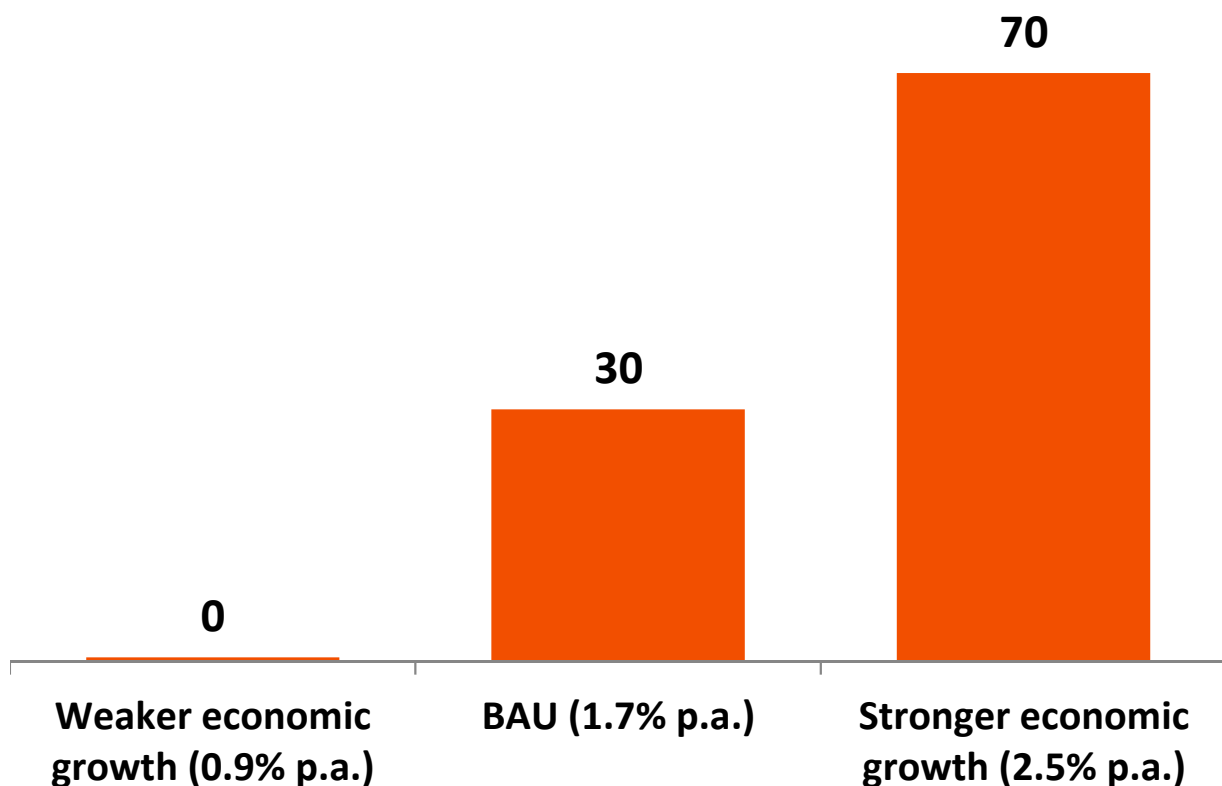
Need for a robust stabilization mechanism

CURRENTLY PROPOSED MSR SETTINGS IS NOT FLEXIBLE ENOUGH TO PROVIDE STABLE ENVIRONMENT FOR NEW LOW CARBON INVESTMENTS



MSR 1.0

Expected average EUA price depending on the GDP growth
EUR/t, if current MSR design is implemented



- Insufficient flexibility of the proposed MSR could lead to extreme price variations in case of significant economic cycles
- The carbon price instability would prevent investments in the low-carbon sources (European utilities already made a costly experience with the EU ETS price instability in case of the new gas capacity)
- Unstable environment even for new RES construction as according to the new State Aid Guidelines they will have to face the market prices through the feed-in premium

Notes: These GDP growth levels imply power demand growth of 0%, 0.6% and 1.3% demand growth, based on current coal/gas price ratio

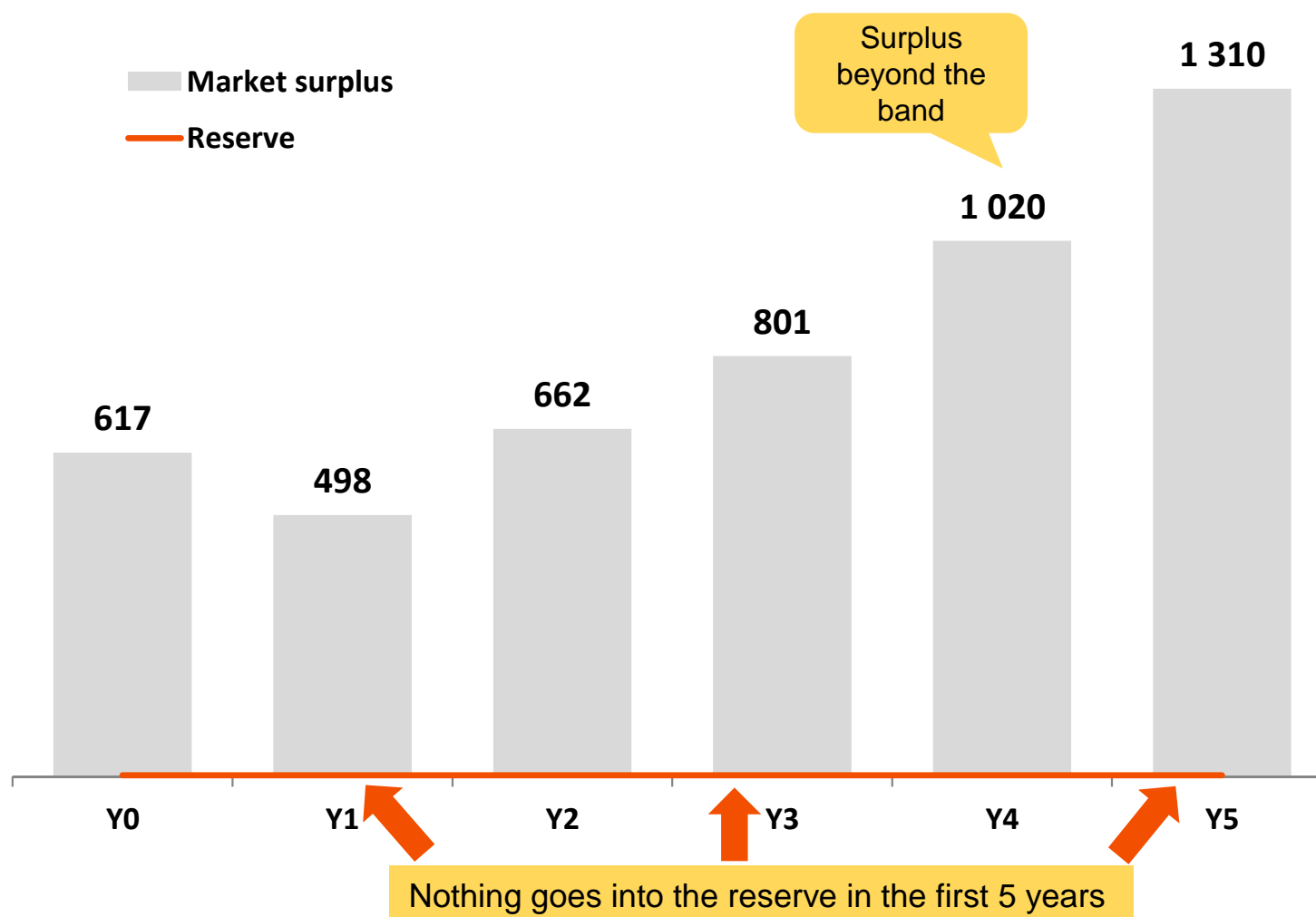
THE PROPOSED DESIGN IS QUITE SLOW



ILLUSTRATIVE

Simulation of the current MSR design behaviour in the crisis of 2008-2012

Mt

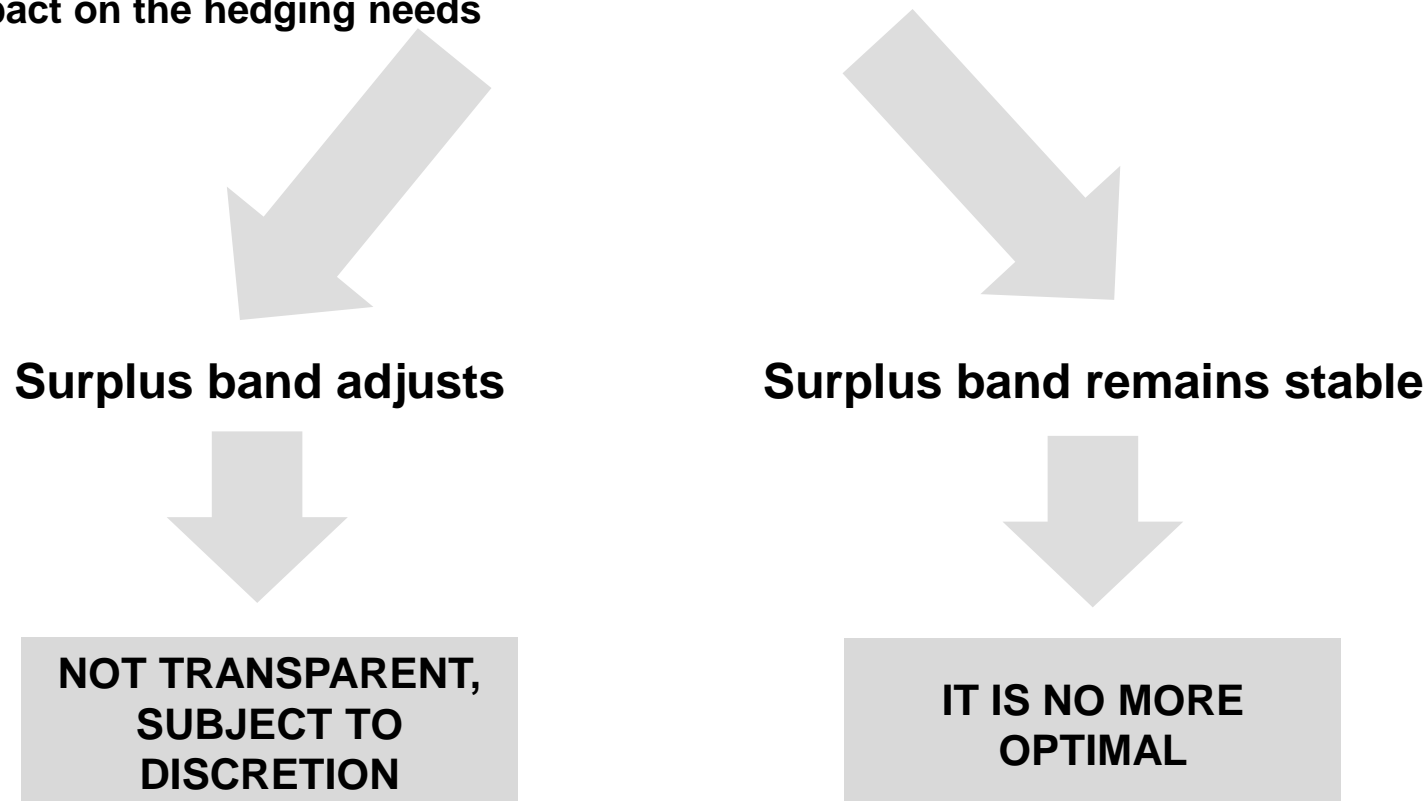


- Simulation starts from a balanced market (in the center of the proposed 400-833Mt band)
- Years Y1-Y5 use the real supply and demand data from 2008-2012 without considering CERs
- Market surplus leaves the band only in Y4 which would trigger the reaction in Y6
- If the market is perfectly rational with infinite horizon, that should not be a significant problem

IS THERE AN OPTIMAL LEVEL FOR THE SURPLUS? AND, IF SO, CAN IT STAY OPTIMAL IN THE LONG TERM?



- Not entirely clear from the Impact Assessment how the 400-833Mt band has been derived
- There may be reasons for keeping allowances for the future instead of burning them other than hedging (time optimization, speculation), but should not these be taken into account then while defining the surplus band?
- Even if we assumed IT IS optimal NOW, it would not guarantee to be optimal also in 5 years:
 - **Hedging patterns** of power utilities **change** in time according to the cash flow perception
 - **Emission intensity** of power production expected to **decrease** in time which has a direct **negative impact on the hedging needs**



AGENDA



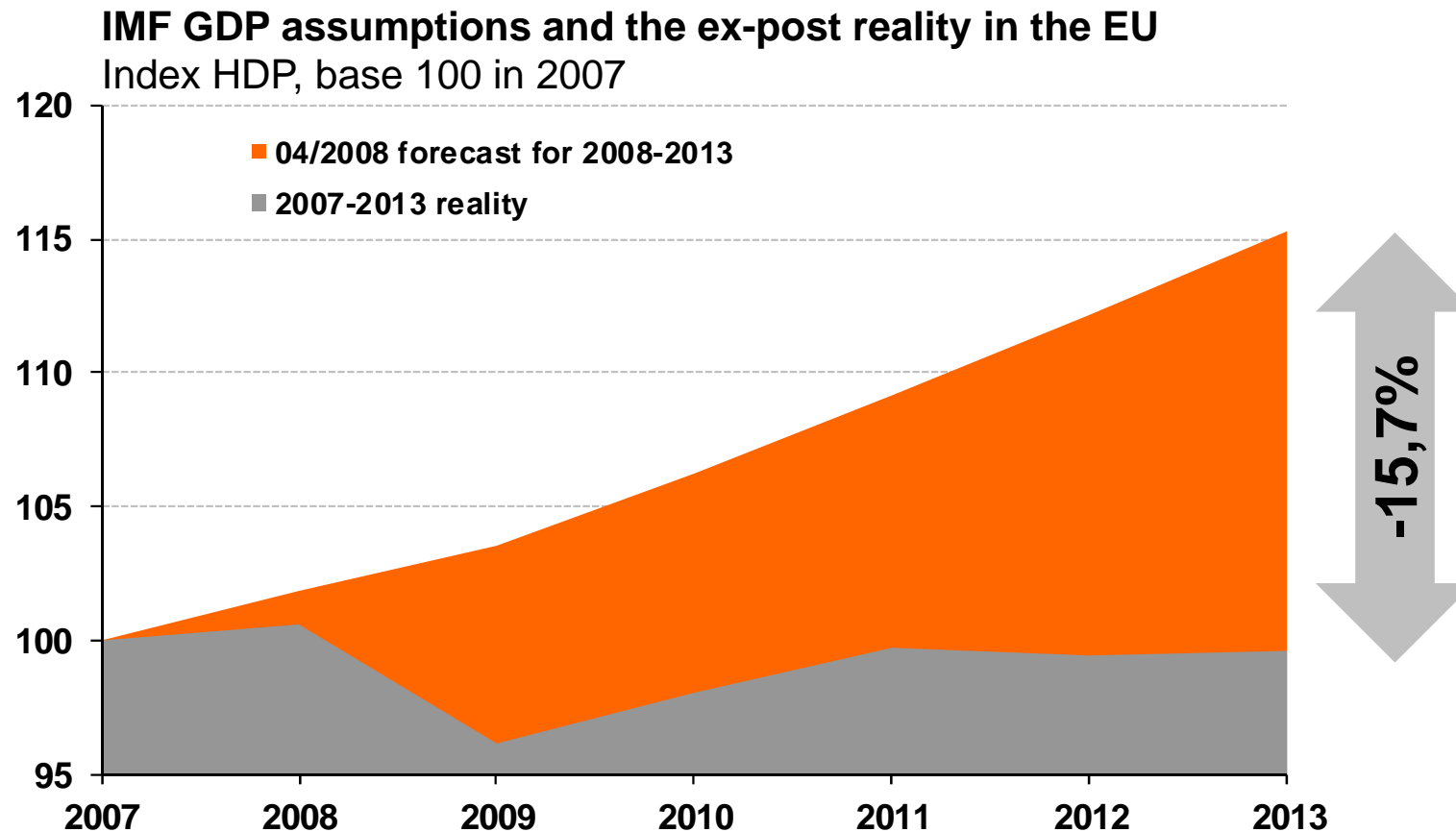
- **Issues with the current MSR design**
- **Solution: MSR 2.0**

UNPREDICTABILITY OF THE LONG TERM ECONOMIC DEVELOPMENT IS THE MAIN CAUSE OF THE CURRENT EU ETS PROBLEMS



„...the economic recession and the accelerated inflow of international credits have created a surplus of more than 2 billion allowances since beginning of phase 2.“

MSR impact assessment, p.7

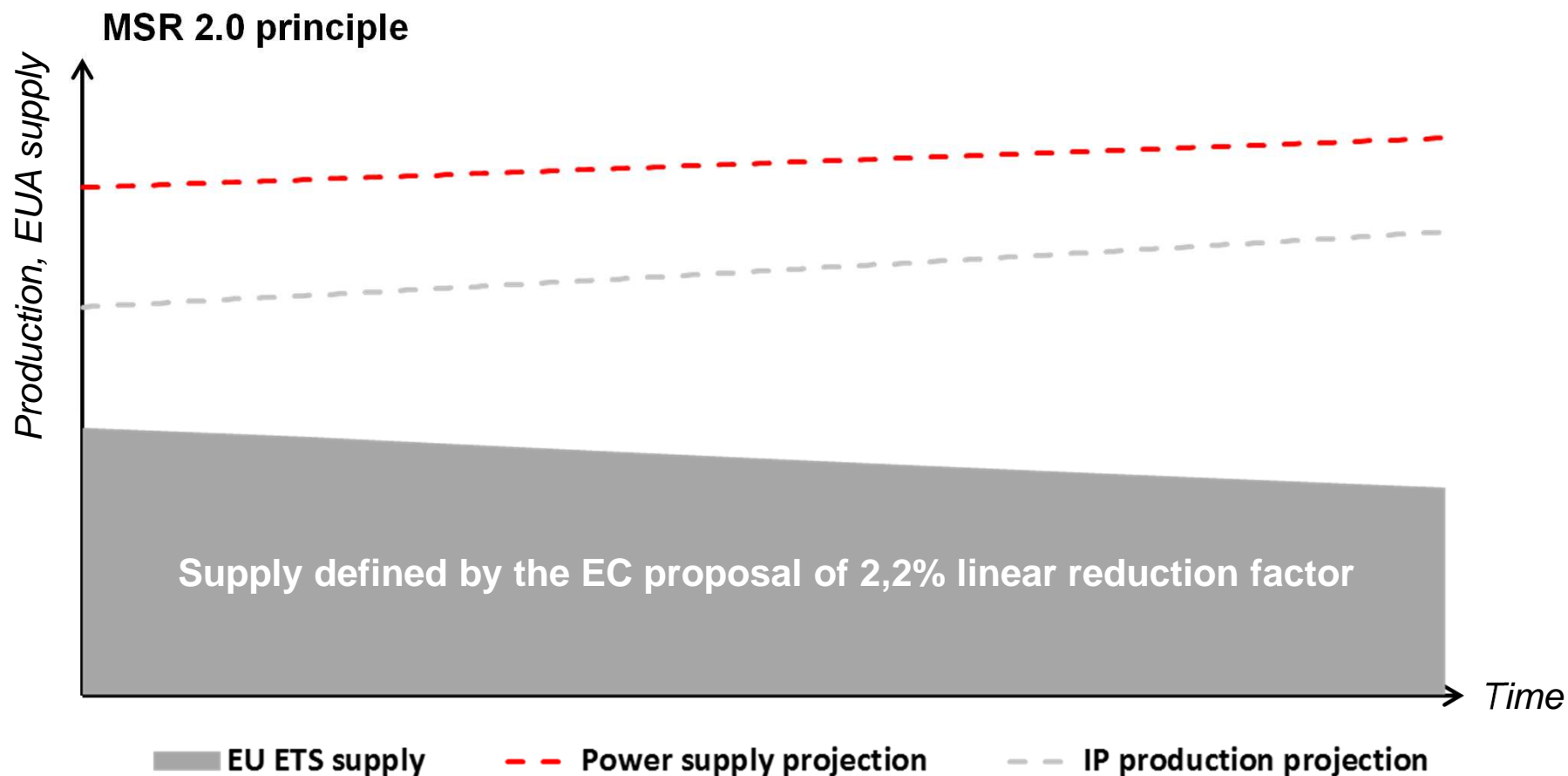


MSR 2.0 ESTABLISHES A CLOSE LINK BETWEEN REAL PRODUCTION CYCLES AND CARBON SUPPLY



MSR 2.0

STEP 1: Define a projection of production in EU ETS sectors (energy, industry)*



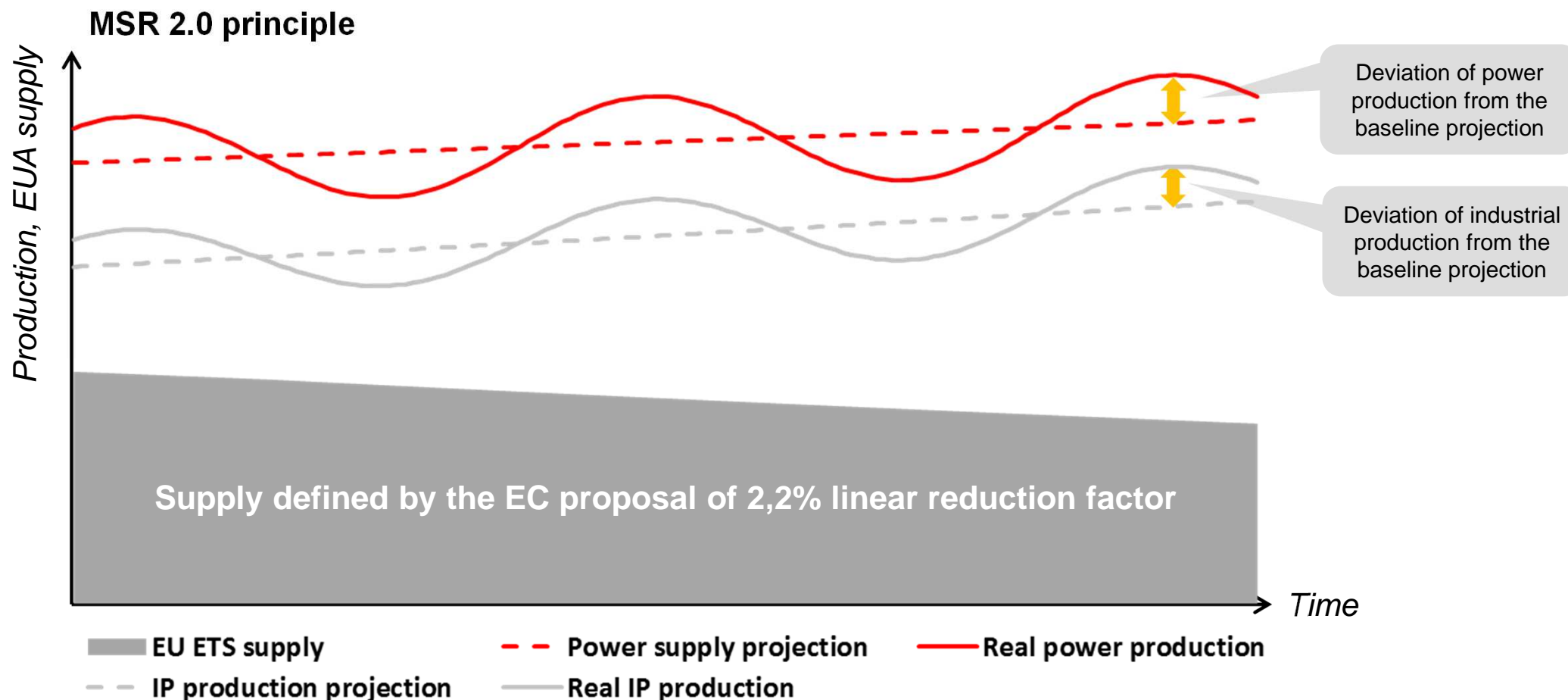
MSR 2.0 ESTABLISHES A CLOSE LINK BETWEEN REAL PRODUCTION CYCLES AND CARBON SUPPLY



MSR 2.0

STEP 1: Define a projection of production in EU ETS sectors (energy, industry)

STEP 2: Adjust the EUA supply according to the **relative deviation of real production from the projection***



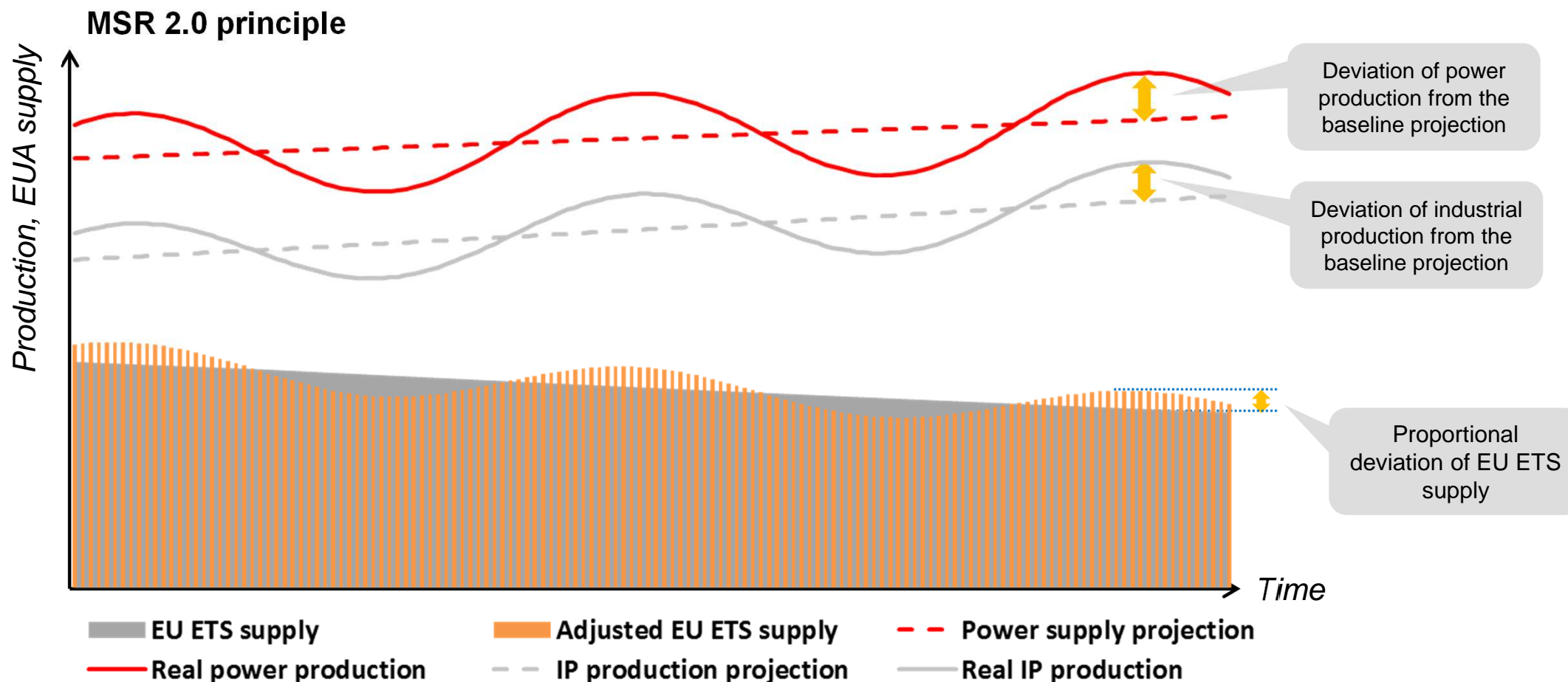
MSR 2.0 ESTABLISHES A CLOSE LINK BETWEEN REAL PRODUCTION CYCLES AND CARBON SUPPLY



MSR 2.0

STEP 1: Define a projection of production in EU ETS sectors (energy, industry)

STEP 2: Adjust the EUA supply according to the relative deviation of real production from the projection*



FORMALLY, THE EU ETS SUPPLY WOULD BE DRIVEN BY A COMPLEX-LOOKING BUT SIMPLE FORMULA



$$Q_{t+d} = \min \left\{ \bar{Q}_{t+d} \left[q^E \frac{E_t}{\bar{E}_t} + (1 - q^E) \frac{IP_t}{\bar{IP}_t} \right], \bar{Q}_{t+d} + R_{t+d} \right\}$$

- **Q** is the quantity of allowances coming to the market
- **t** is the relevant time period (can be either months or quarters or years), **d** is the delay needed to publish the production data
- \bar{Q} is the predefined allocation of allowances defined i.e. by the 2.2% linear reduction factor
- q^E is the proportion of allowances attributed to the energy sector
- **E** and **IP** are the real production volumes in the energy sector (in TWh) and in the industry (IP index) respectively
- \bar{E} and \bar{IP} are the ex-ante baseline expectations regarding energy and industrial production respectively (as present i.e. in the EC impact assessment)
- **R** is the remaining volume of allowances in the reserve

MSR 2.0 BRINGS NUMEROUS ADVANTAGES



- **Supply is correlated with the real economic situation**
 - avoids one of the biggest uncertainties inherently present in the current proposal - unpredictability of the economic situation in the longer time horizon
 - focus remains on long-term decarbonization
- **Adjustment is quick**
 - only limited by the delay needed to publish economic statistics (i.e. Eurostat), which is no more than a quarter
- **Adjustment is flexible**
 - able to capture the whole magnitude of external changes (subject to the remaining volume in the MSR)
- **Supply adjustment captures the impact of energy efficiency policies**
 - higher energy efficiency effort implies lower electricity production and therefore also a lower EUA supply
- **The external trigger prevents any market manipulation for speculative reasons**
- **Non-discretionary, rule based mechanism means transparency**
- **No need to estimate hedging needs**
 - volume needed for hedging is set up by the market at any given time

LIMITATIONS OF THE EXTERNAL-BASED TRIGGERS MENTIONED IN THE IMPACT ASSESSMENT DO HAVE SOLUTION



MSR impact assessment lists several limitations of External indicator-based triggers:

MSR impact assessment, p.17-18

LIMITATION

„...trends in the EU ETS sectors may be prone to different cyclical swings than the wider economy...“

„...they [external based indicators] are not able to capture changes in the demand due to possible other factors, such as impact of complementary policies...“

„...they [external based indicators] are also not able to capture changes on the supply side, such as occurred in the transition from phase 2 and 3...“

SOLUTION

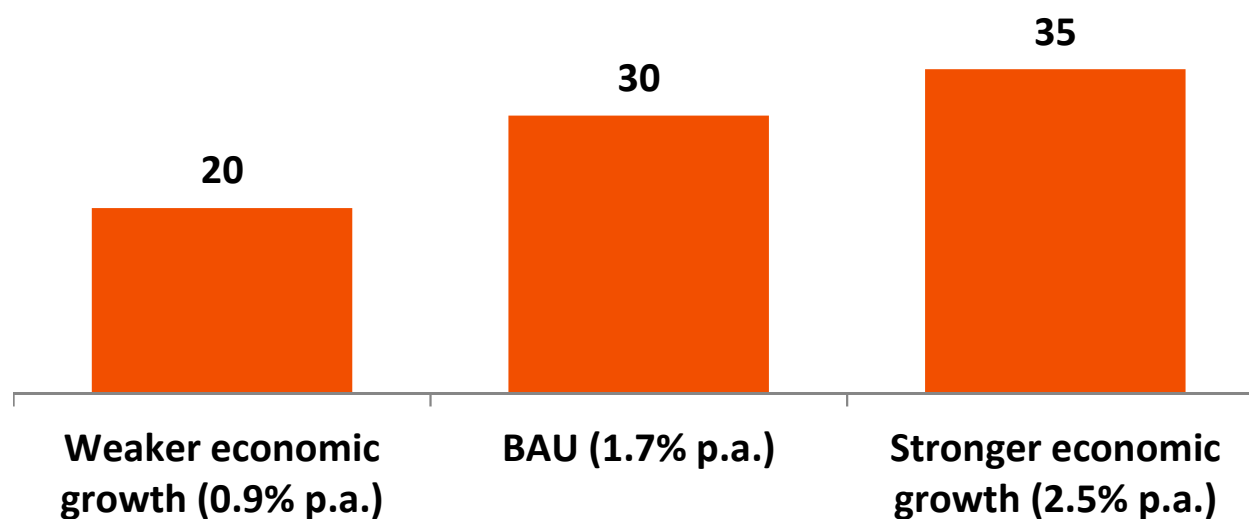
- Consider just the EU ETS sectors instead of the whole GDP
 - Energy sector
 - Industrial production
- Indeed they are:
 - Energy efficiency decreases the production in energy sector which has a direct effect on the EUA supply
- Indeed they are: there would not be any sell-off of NERs at the end of phases as the supply is directly linked to the production with the external trigger

REVISED SCHEME - MSR 2.0 - WOULD CREATE MORE STABLE INVESTMENT ENVIRONMENT



MSR 2.0

Expected average EUA price depending on the GDP growth
EUR/t, if MSR 2.0 design is implemented



- The impact of economic shocks on the carbon prices would be less dramatic
- Such an economy-neutral design would create a stable and predictable environment for long term investments in modern and clean technologies
- Unlike in case of taxes, prices still able to provide some relief in case of economic recession as the production from highly emission-intensive sources is falling more than proportionally

Notes: These GDP growth levels imply power demand growth of 0%, 0.6% and 1.3% demand growth, based on current coal/gas price ratio

ONLY MODIFYING MSR PARAMETERS (MSR 1.1) COULD IMPROVE THE FLEXIBILITY BUT THE MSR 2.0 STILL SEEMS TO OFFER BETTER POSSIBILITIES



	MSR	MSR 1.1	MSR 2.0
Speed of adjustment	<ul style="list-style-type: none"> 24 months Annual adjustment 	<ul style="list-style-type: none"> 18 months Annual adjustment 	<ul style="list-style-type: none"> 3 months Monthly, quarterly or annual adjustment
Size of adjustment	<ul style="list-style-type: none"> 12% of the surplus 100Mt in case of deficit 	<ul style="list-style-type: none"> Up to 30% of the surplus Up to the remainder in the reserve 	<ul style="list-style-type: none"> Up to the volume of auctions Up to the remainder in the reserve
Optimal band	<ul style="list-style-type: none"> 400-833 Mt 	<ul style="list-style-type: none"> Relative to the decreasing supply 	<ul style="list-style-type: none"> No need to define
Trigger for adjusting supply	<ul style="list-style-type: none"> Surplus size (internal – risk of manipulation) 	<ul style="list-style-type: none"> Surplus size (internal – risk of manipulation) 	<ul style="list-style-type: none"> Economic growth (external – objective criteria)
Price effects	<ul style="list-style-type: none"> Volatile 	<ul style="list-style-type: none"> Upward pressure* 	<ul style="list-style-type: none"> More stable

* More flexible adjustment means that the majority of early emission savings ends up in the reserve which increases the overall decarbonization effort