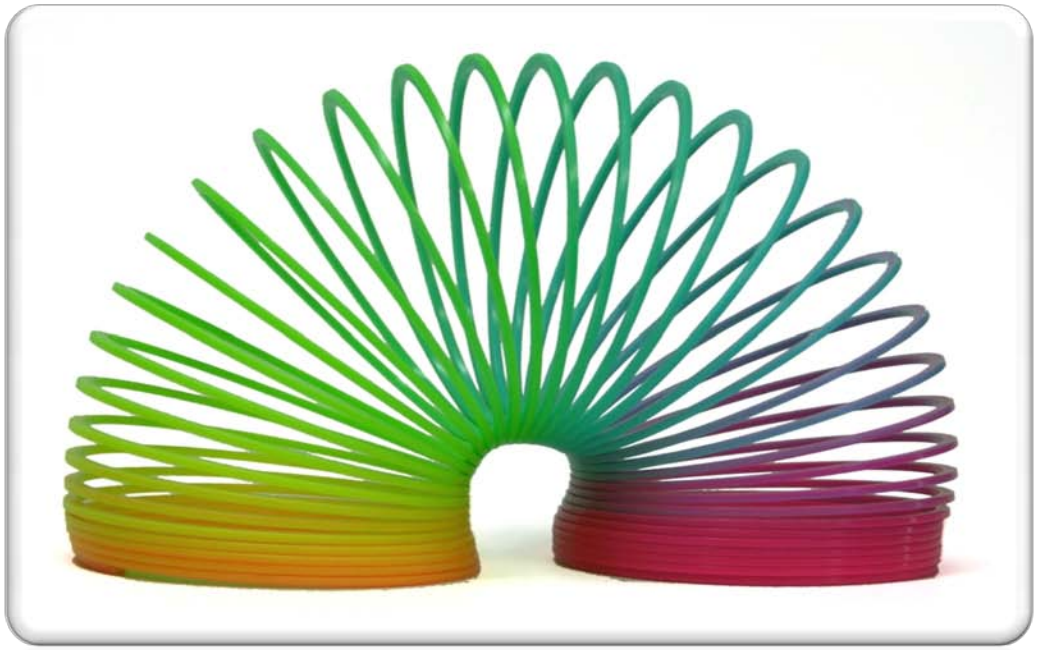


FlexMex

Potential flexibilities for transboundary emission ceilings

Andrew Kelly

6th October 2009

Andrew.Kelly@APEnvEcon.com

IMP Ireland INTEGRATED MODELLING PROJECT

AP EnvEcon

epa Environmental Protection Agency

Opening Clarification

These are not...	These are...
• Fully researched proposals	• Concepts
• Guaranteed Pareto improvements (no loser)	• For discussion and refinement
• Not even guaranteed K-H improvements (net CB gain)	• Necessary considerations for future policy

AP EnvEcon

IMP Ireland INTEGRATED MODELLING PROJECT

Cross Cutting Concepts I of III

Effect Protection

General concept of allowing an alternate path to the same outcome	Some examples could lead to varied effect outcomes

Minimum AQ Values

Ambient air quality standards should likely be respected	Constraints on the possibility of flexibility leading to excessive localised impacts

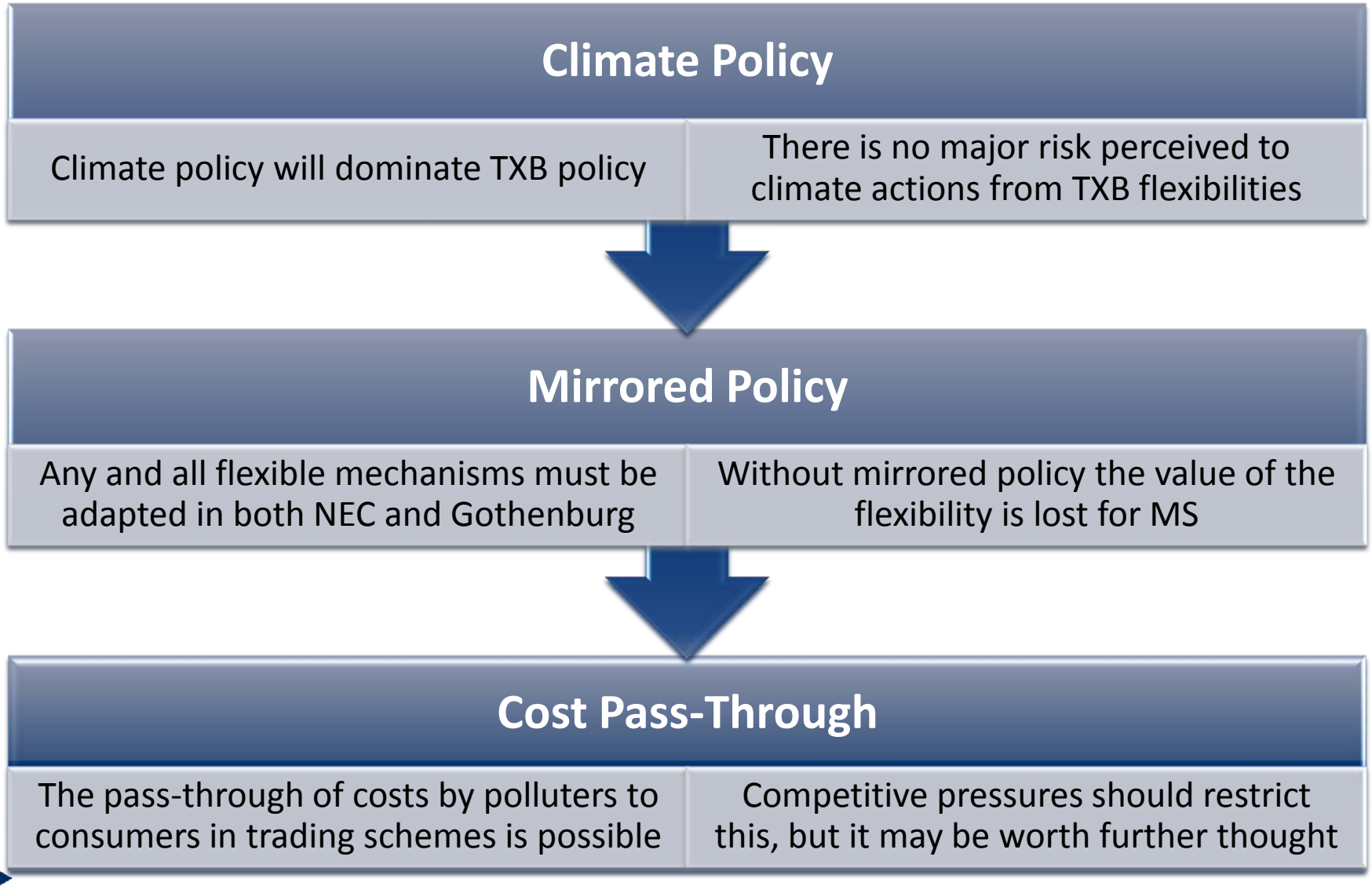
Balanced effects mitigation distribution

Trading may promote cost-effectiveness, but important to spread social benefits	Are benefits of policies reasonably well distributed after flexibility?

AP EnvEcon

IMP Ireland INTEGRATED MODELLING PROJECT

Cross Cutting Concepts II of III



AP EnvEcon

IMP Ireland INTEGRATED MODELLING PROJECT

Cross Cutting Concepts III of III

Regular Monitoring and Revision

Proposed systems are more complex but should avoid more fundamental problems	It will be important to establish more regular and structured monitoring and revision

National Capacities

Related to the above we believe strengthening national capacities in the field is key	The processes benefit from more engagement – appropriate data, faster turnaround times -

Appropriate Penalties

Ultimately flexibilities are not about avoiding penalties, but rather supporting action	Where failures occur it is necessary that appropriate penalties are enforced for non-compliance

AP EnvEcon

IMP Ireland INTEGRATED MODELLING PROJECT

The FlexMex

9 measures for discussion

AP EnvEcon

IMP Ireland INTEGRATED MODELLING PROJECT

Measure

Concept

Some summary information on how the measure might operate

Initial assessment of strengths of this measure

Initial assessment of weaknesses associated with this measure

AP EnvEcon

IMP Ireland INTEGRATED MODELLING PROJECT

Bubble International Trading

BIT – Trading Mechanism

Establish regional 'bubbles' where an acceptable common value/cost for emissions of a given pollutant can be agreed. Allow trading between parties within the bubble.

Trading generally supports more cost-effective emission reductions

Trading places a relatively clear commercial value on abatement that can accelerate abatement development and deployment

Requires good information transfer between parties

Could lead to regional shifts in effects

Valuation of effects and pollutants for trading is a challenge

Would require an administrative system

AP EnvEcon

IMP Ireland INTEGRATED MODELLING PROJECT

Sectoral International Trading

SIT – Trading Mechanism

The same concept as the bubble trading but linked to sectoral operations. Generally the concept involves piggybacking on an existing monitored sector e.g. IPCC or perhaps (with some modification) the ETS system.

Trading generally supports more cost-effective emission reductions

Trading places a relatively clear commercial value on abatement that can accelerate abatement development and deployment

IPPC structures may facilitate a sectoral system

Requires good information transfer between parties

Could lead to regional shifts in effects - smaller than bubbles?

Valuation of effects and pollutants for trading is a challenge

The geographic dispersion of sectoral sources may also require bubbles

AP EnvEcon

IMP Ireland INTEGRATED MODELLING PROJECT

Sectoral Emission Exclusion

SEE – Administrative option for pairing with SIT trading

Not so much a flexibility as an option. Where a sector engages in sectoral international trading their activities could be removed from the ceiling process to reduce administrative burden and focus the remaining sectors.

Heavily monitored and regulated sectors or facilities are generally well understood and this facilitates forecasting and control within a policy framework. It may be advantageous to handle such sectors separately in the compliance process. This could also avoid the doubling of administrative burdens for such sectors/facilities.

Reporting and modelling at national and international levels may need to be adapted to allow for the systematic inclusion or exclusion of sectors for a specific purpose. For example, include sectors when estimating cumulative exceedance, exclude sectors when monitoring progress to an emission target that allows for a specific SEE.

AP EnvEcon

IMP Ireland INTEGRATED MODELLING PROJECT

Split Ambition Targets

SAT – Divided and adaptable target setting

Involves setting two components in a given target – a fixed component and flexible 'range' component. The flexible range is linked to outcomes with respect to identified uncertainties. Different approaches are possible.

May be perceived as 'fair' and acknowledges uncertainty

Inflexible component can still guarantee a certain level of effect

Flexible range can go both ways leading to potential further gain

Useful for NTMs and formal inclusion of new measure types

SAT could lead to higher effects than anticipated

SAT may result in varied benefit distribution

SAT may complicate the modelling and policy process

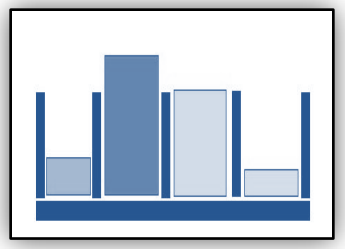
Models do not prescribe measures for a country, thus adapting ceilings on the basis of changes to modelled expectations may be inappropriate

AP EnvEcon

IMP Ireland INTEGRATED MODELLING PROJECT

National Offset Trading

NOT – Internal pollutant trading flexibility



Ex post of the process, over compliance by a country is rewarded with the option, if necessary, to offset the additional effects mitigation for comparable levels of effect increases as a result of any given exceedance.

Considers effects in aggregate and removes potential to incur greater cost than necessary

May be perceived as fair in the spirit of the ceiling objectives

Should not prejudice the overall ambitions of the process

What is the appropriate exchange rate for pollutants and effects?

Would require ex post assessment of a country's overall contribution of effect reductions – need to disentangle from other sources and apportion the contribution

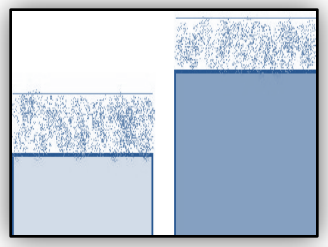
Would limit the potential for 'bonus' effect reductions

AP EnvEcon

IMP Ireland INTEGRATED MODELLING PROJECT

Relative Emission Ceilings

REC – Adaptable targets



Ceilings are set in relative – not absolute – terms. Thus the required level of abatement will shift to reflect changes in research that may lead to revised estimates of baseline emissions for example.

Another means of addressing the uncertainty in the process.

As methodologies and data evolve the ceilings and obligations would maintain their relative position and a proportionate challenge for member states.

The flexibility may encourage greater engagement and support for potential ceilings

Relative ceilings could lead to varied effects outcomes.

Disputes over research findings may lead to technical challenges.

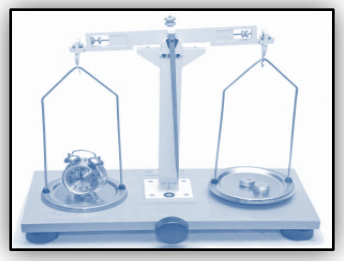
Radical changes may require an overhaul of the process

AP EnvEcon

IMP Ireland INTEGRATED MODELLING PROJECT

Temporal Allowances Flexibility I and II

TAF - *Time related compliance testing flexibilities*



Offer a moratorium on non-compliance fines under commitment that the resources be invested in over compliance within a subsequent defined time frame.

OR…

Test for compliance over an extended period of time such that potential emission volatility in the compliance year is smoothed out and not unnecessarily penalised (Year X – 1 *plus* Year X *plus* Year X + 2) / 3

Both allow for poor synchronisation between outcomes of abatement efforts and legislatively decided compliance dates

TAF 1 could help secure greater funds for abatement action within member states

They allow time for greater penetration of measures and long term strategies to come fully into play – Important for NTMs

TAF allowances may complicate the timing for development of new legislation.

TAF allowances are trading shorter term objectives for additional longer term gains.

TAF 1 gives member states a second chance and may forfeit potential funds from European Court of Justice proceedings for non-compliance.

AP EnvEcon

IMP Ireland INTEGRATED MODELLING PROJECT

Effect Cancellation Investment

ECI – Pre-emptive effect mitigation and trading

Investments are made in early effect mitigation (e.g. liming of lakes) by a central body and associated credits for effect mitigation are then offered to the market in the event of non-compliance in the future.

Focuses on at-risk area, generates funds for EEP actions

Over compliance possible in the long-term

Engages policymakers, up-stream polluters, down-stream managers and this may lead to new beneficial outcomes

Various scientific and commercial potentials

Who should pay at the outset and how much? How should we choose the areas to benefit?

Perhaps if a national requirement was defined this could be left to the national competent authority to collect payments from national sources. Challenging in some sectors.

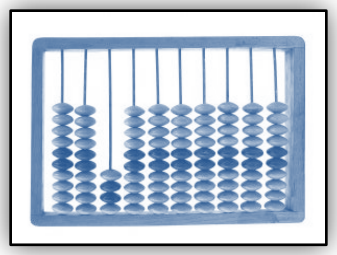
Costs would have to be carefully evaluated and implementation strictly regulated

AP EnvEcon

IMP Ireland INTEGRATED MODELLING PROJECT

Compliance Testing Flexibility

CTF – Adaptable compliance testing



Variation of other flexibilities – specifically a category heading for a flexible mechanism that allows for revisions to the method of compliance testing based on new research e.g. effects less severe than estimated

Would allow the process to deal specifically with changes that influence the process

Would potentially allow for greater emissions and effects

Would require 'freezing' an operational model as at the time of the original modelling work.

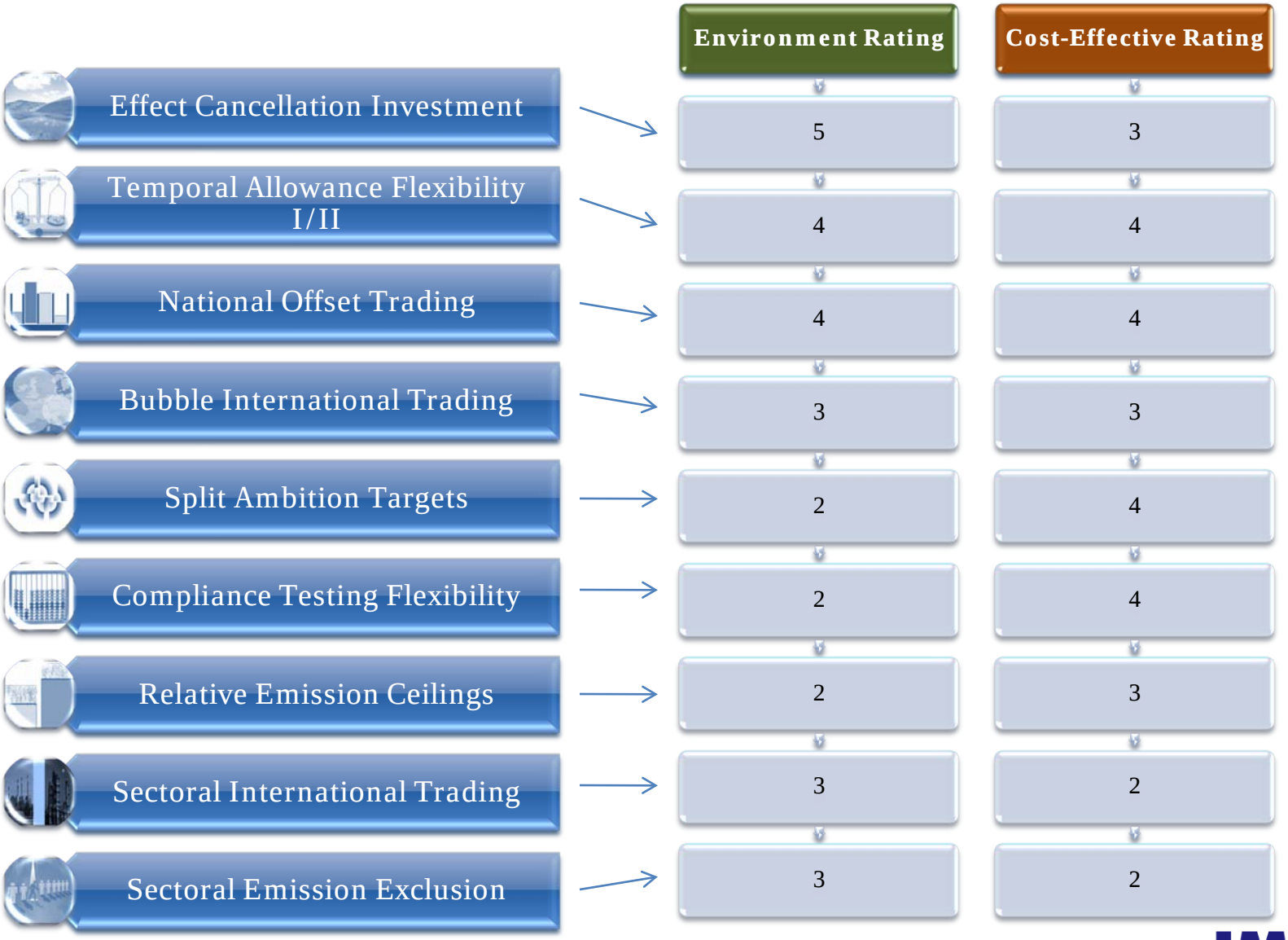
Strict rules would be required in relation to which 'issues' would warrant a CTF model run.

Would require additional modelling work.

AP EnvEcon

IMP Ireland INTEGRATED MODELLING PROJECT

(Very) Provisional Ranking



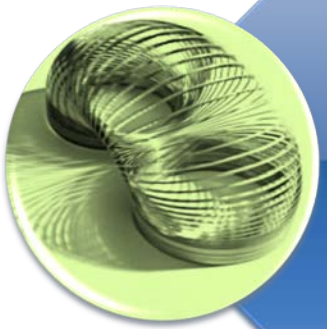
AP EnvEcon

IMP Ireland INTEGRATED MODELLING PROJECT

Conclusions

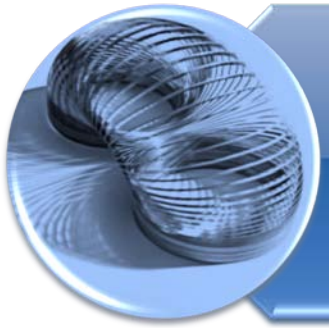
These are concepts and require further detailed analysis and consideration before becoming viable mechanisms

However, it is better to go from many to few than few to none when considering options



TXB air pollution work entails considerable uncertainty – from the basics i.e. dealing with the future to specific methodological issues e.g. PM or VOC estimation, technology effectiveness

Flexible mechanisms incorporate uncertainty into the process in a practical way – sensitivities do not really achieve this



Flexibility is absolutely necessary with regard to NTMs
Flexibility is a good thing – It is not about avoiding action

Flexibility can promote engagement and limit legal challenges

Flexibility can limit the potential for poor resource allocation

AP EnvEcon

IMP Ireland INTEGRATED MODELLING PROJECT