



Emissions trading as part of a broader sustainable development strategy

Andrew Prag, International Energy Agency

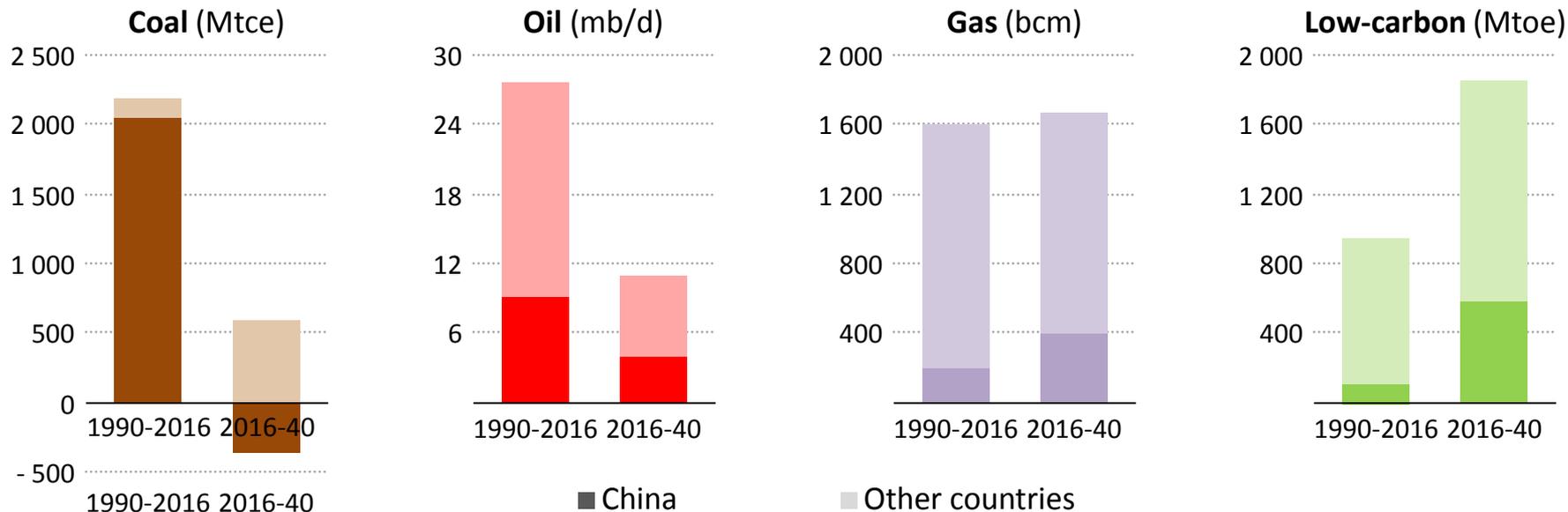
Shenzhen, 13 December 2017

- **Transition to a low-carbon energy system is essential for tackling climate change but is only one part of sustainable development**
 - ...there are other pressing development goals, including air quality.
- **Carbon pricing is central to achieving a cost-effective low-carbon transition**
 -but it is overlaid onto many pre-existing energy and non-energy policies
- **Two questions:**
 - Can low-carbon goals be achieved alongside other economic and development goals, and how?
 - What is the role of the wider policy landscape in maximising the effectiveness of carbon pricing?



World Energy Outlook 2017

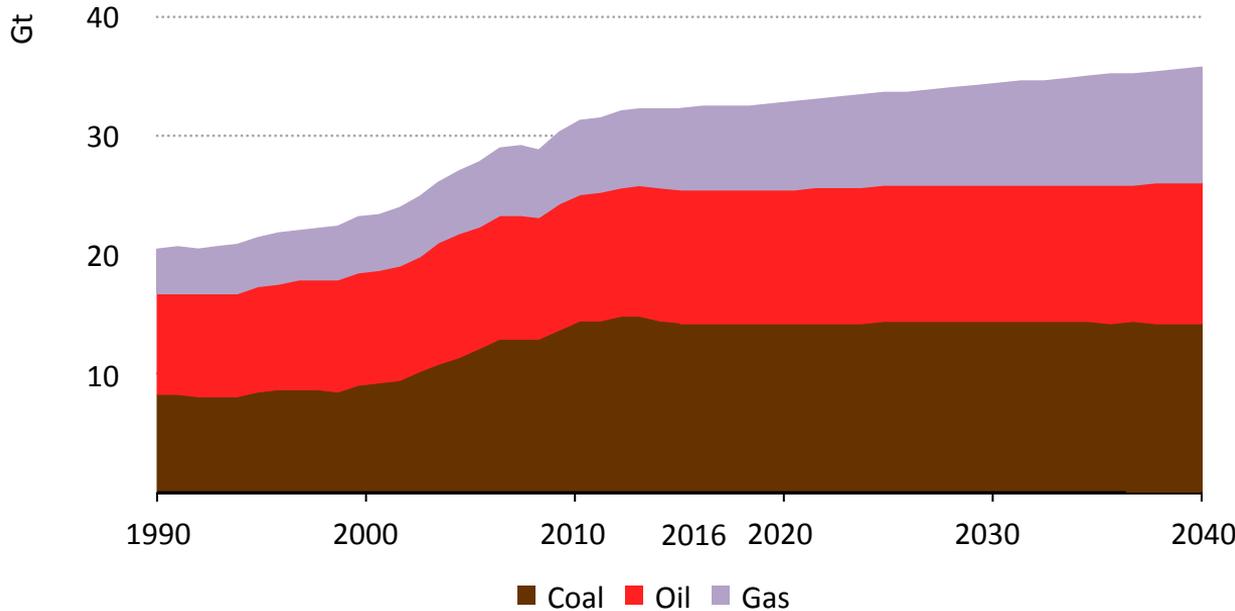
Change in world energy demand by fuel (New Policies Scenario)



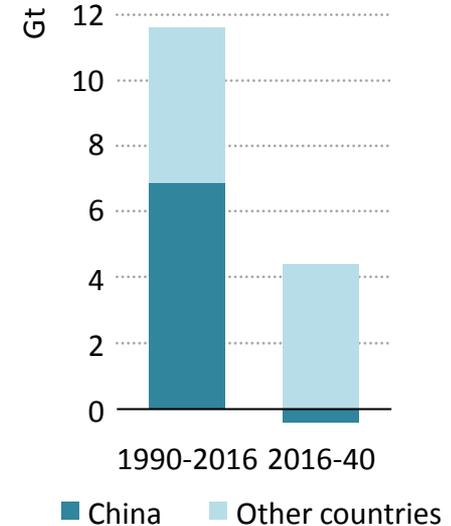
Low-carbon sources & natural gas meet 85% of the increase in global demand: China's switch to a new economic model & a cleaner energy mix drives global trends

CO₂ emissions growth slows, but does not decline

Global energy-related CO₂ emissions in the New Policies Scenario

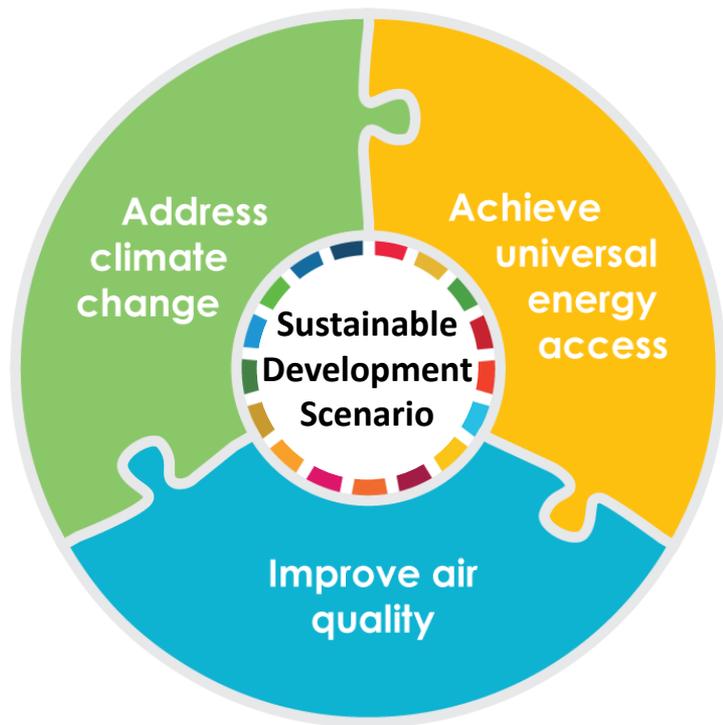


CO₂ emissions growth by period



In the New Policies Scenario, emissions growth slows as China moves away from coal and the use of low-carbon technologies, in particular solar PV and wind, rises

A new strategy for energy & sustainable development



SUSTAINABLE
DEVELOPMENT
GOALS

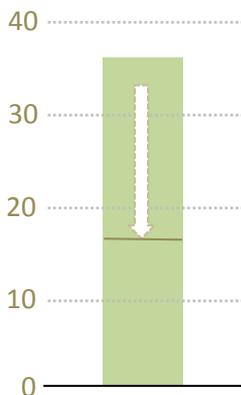


The Sustainable Development Scenario reduces CO₂ emissions to address climate change while also tackling air pollution and achieving universal energy access

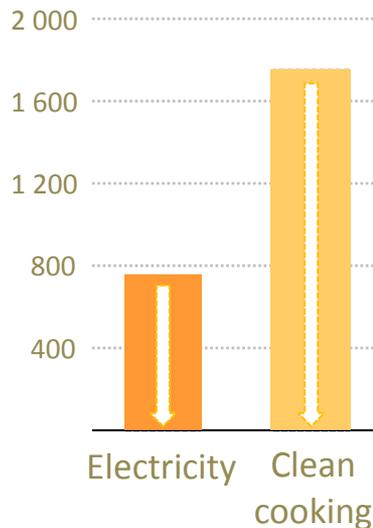
Benefits of the Sustainable Development Scenario

Outcomes of the Sustainable Development Scenario vs. New Policies Scenario (2040, world)

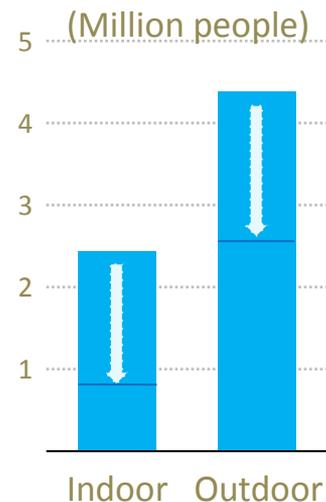
CO₂ emissions
(Gt CO₂ in 2040)



People without access to modern energy
(Million people)

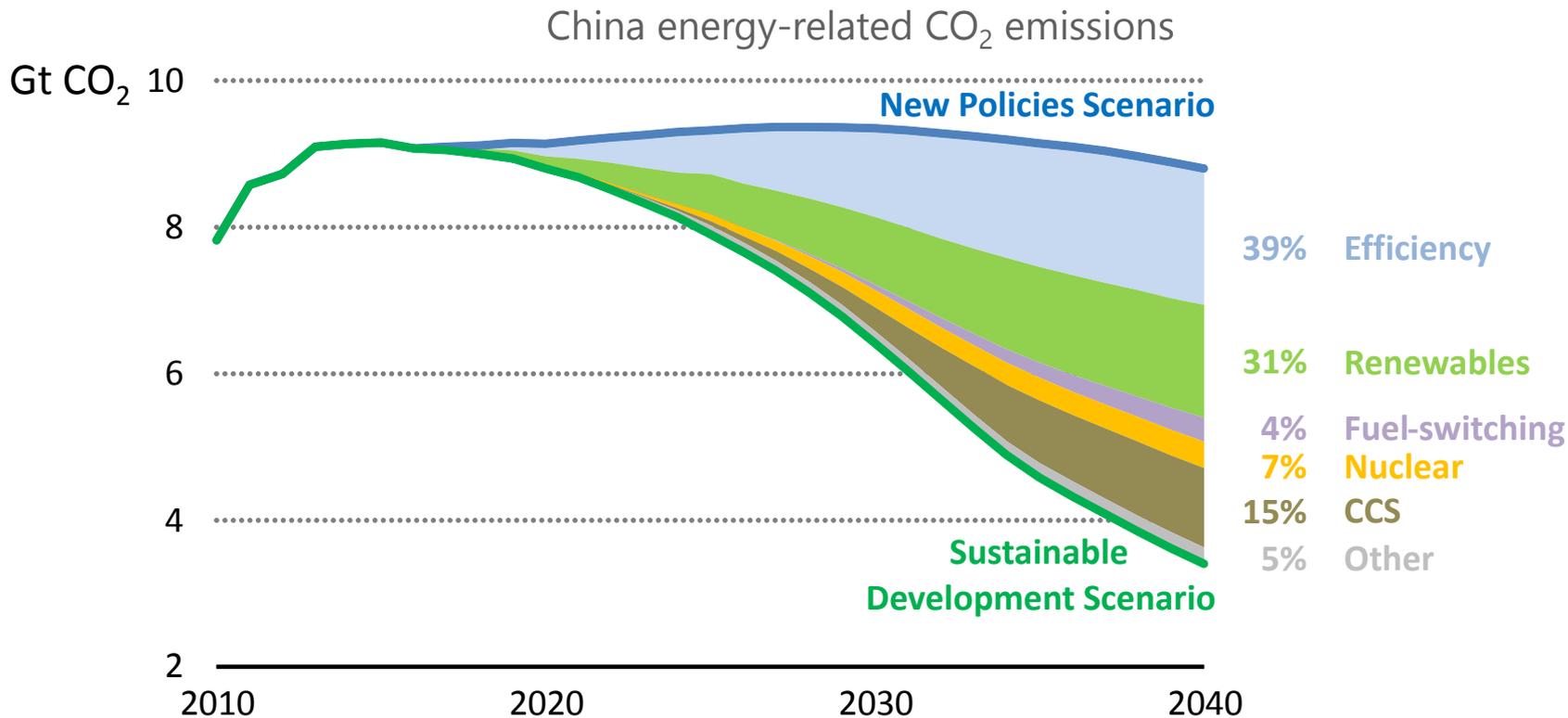


Premature deaths from
air pollution
(Million people)



In an integrated approach, universal energy access can be reached while also achieving climate goals and reducing air pollutant emissions, at little extra cost

Achieving CO₂ reductions while meeting air quality goals

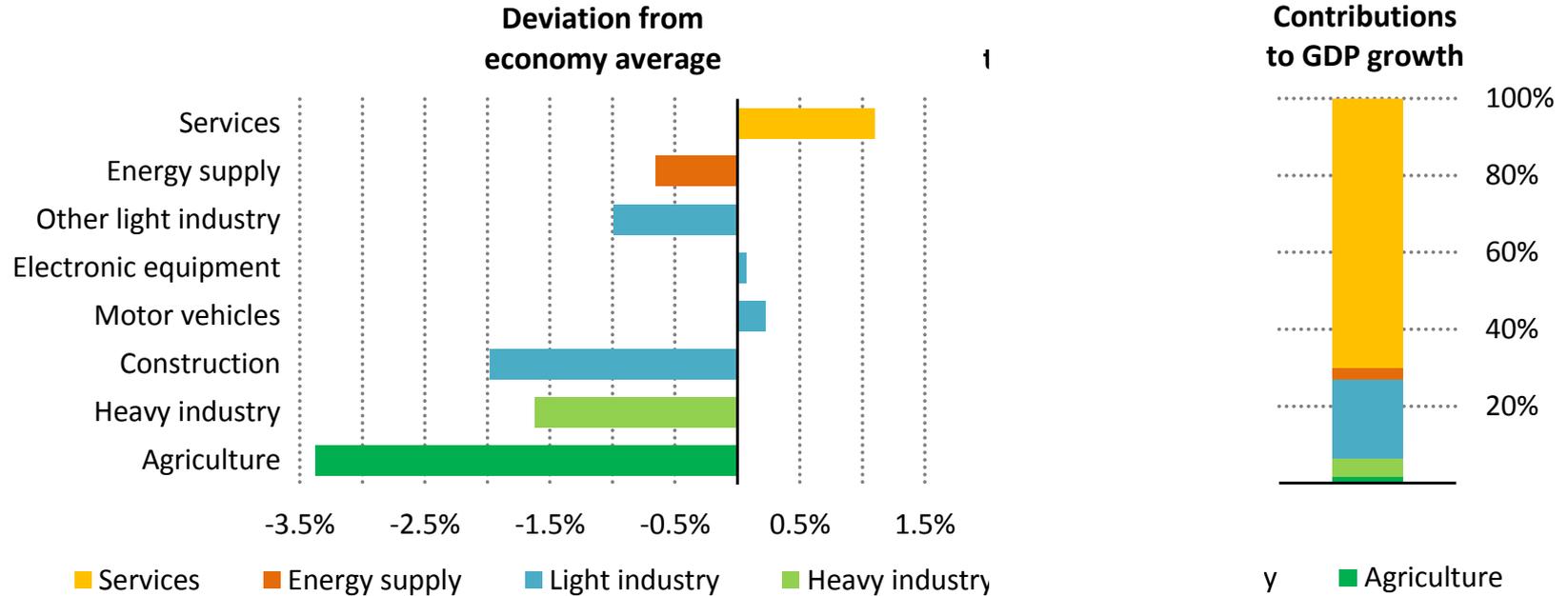


A rapidly rising carbon price is central – but not sufficient – to achieve the Sustainable Development Scenario

- **Emissions Trading is never introduced in a vacuum: how the existing policy landscape supports or counteracts it is central to its success**
- **Interactions with other energy sector policies need to be considered in ETS design, for example:**
 - How do other energy policies affect emissions in the covered sectors?
 - How will power sector reform affect the price signal for investment and dispatch decisions?
 - How will ongoing industrial transformation affect energy demand in covered sectors?

Shifts in China's economy in the coming decades

Projected change in value-added by sector, China, 2017-2040



Source: IEA World Energy Outlook (2017)

Energy intensive industries give way to a more services-oriented economy

- **Identifying where broader policies are misaligned with carbon price incentives :**
 - Fossil fuel subsidies: a negative price signal
 - “Carbon entanglement”: governments dependent on fossil-fuel royalties and taxes
 - Urban planning policies: can favour carbon-intensive lifestyles and transport
- **Making the economic case and building social and political support for the transition**
- **Additional measures for sectors and activities where carbon price incentives are less effective**
 - Direct incentives to overcome non-price barriers such as energy efficiency
 - Public investment for the longer-term: infrastructure and innovation

- **The low-carbon transition can be a source of future sustainable growth**
- **Climate change objectives can be pursued in parallel with air quality goals and energy access goals, at minimal extra cost**
- **Carbon pricing alone is not enough to drive the transition:**
 - Managing interactions with energy policies and addressing other policies that are misaligned with climate goals
 - Supporting carbon pricing with complementary measures



Thank you

Andrew Prag – andrew.prag@iea.org
