

CIRCULAR ECONOMY

Closing the loop

循环经济闭环

CIRCULAR ECONOMY

EU APPROACH TO WASTE & CIRCULAR ECONOMY

欧盟垃圾处理与循环经济实践

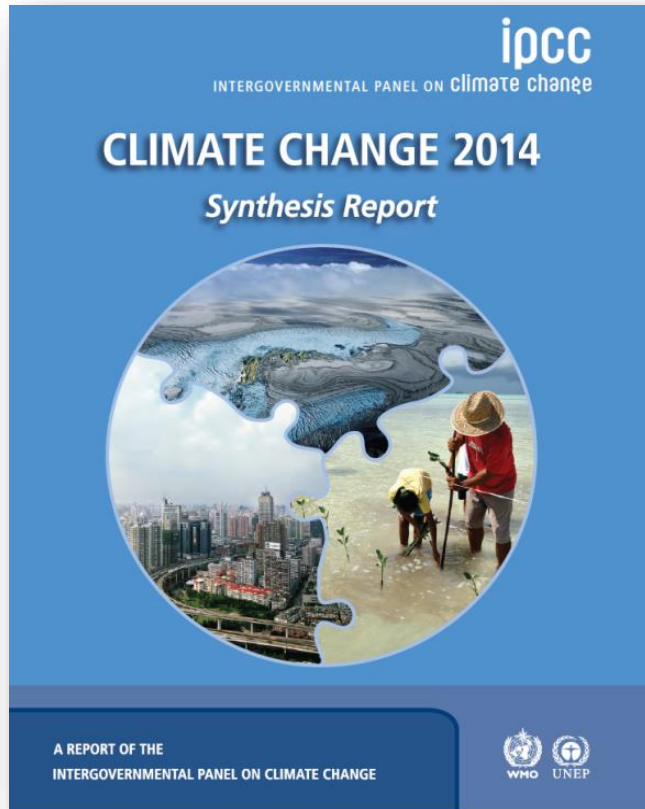
Vicky Pollard 白薇琪

EU Delegation to China 欧盟驻华代表团

Suzhou 28 August 2018 2018.8.28, 苏州

The latest climate science

最新气候科学



- IPCC 5th Assessment Report – Key findings:

- IPCC第五次评估报告 – 重要发现：

- Warming of the climate system is unequivocal

- 气候变暖的事实毋庸置疑

- Human influence on the climate system is clear

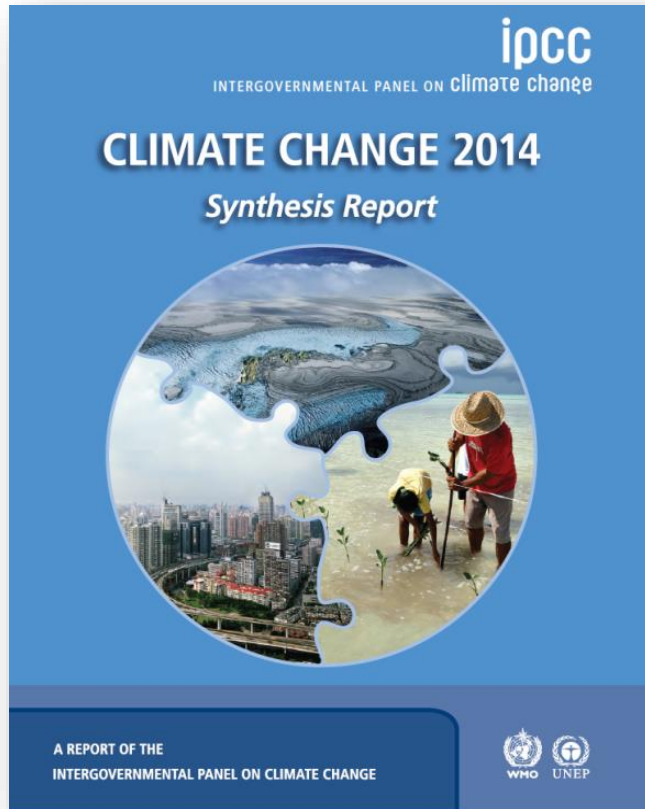
- 人类带对气候系统的影响显而易见

- Each of the last three decades has been successively warmer at the Earth's surface than any preceding decade since 1850

- 过去的三十年是自1850年以来地球表面最热的几年

The latest climate science

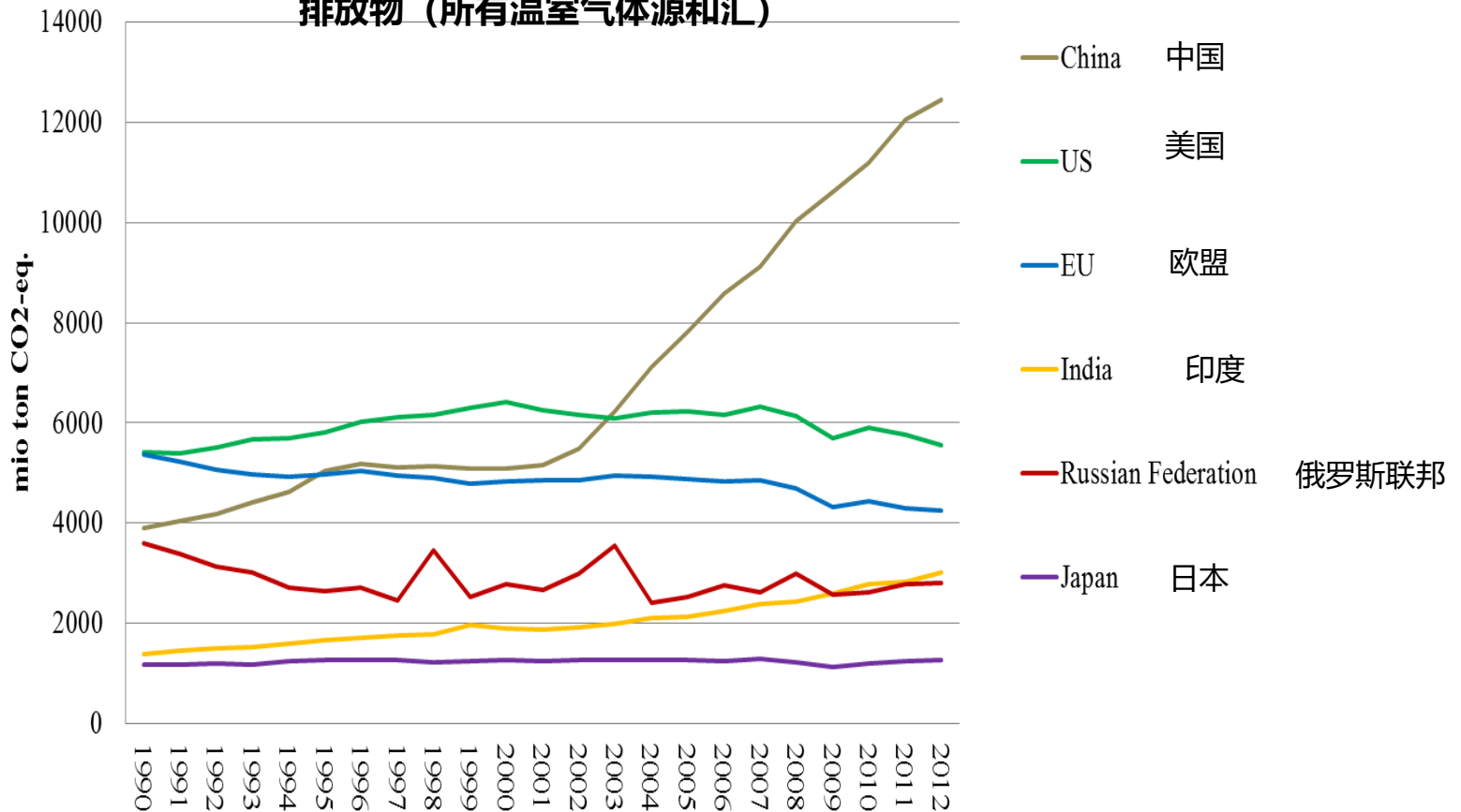
最新气候科学



- Continued emissions of greenhouse gases will cause further warming and changes in all components of the climate system
- 温室气体持续排放会进一步引发气候系统内所有部分的变暖
- Limiting climate change would require **substantial and sustained reductions in greenhouse gas emissions** which, together with adaptation, can limit climate change risks
- 通过持续显著降低温室气体排放并将其推广应用，人类可以控制气候变化的风险

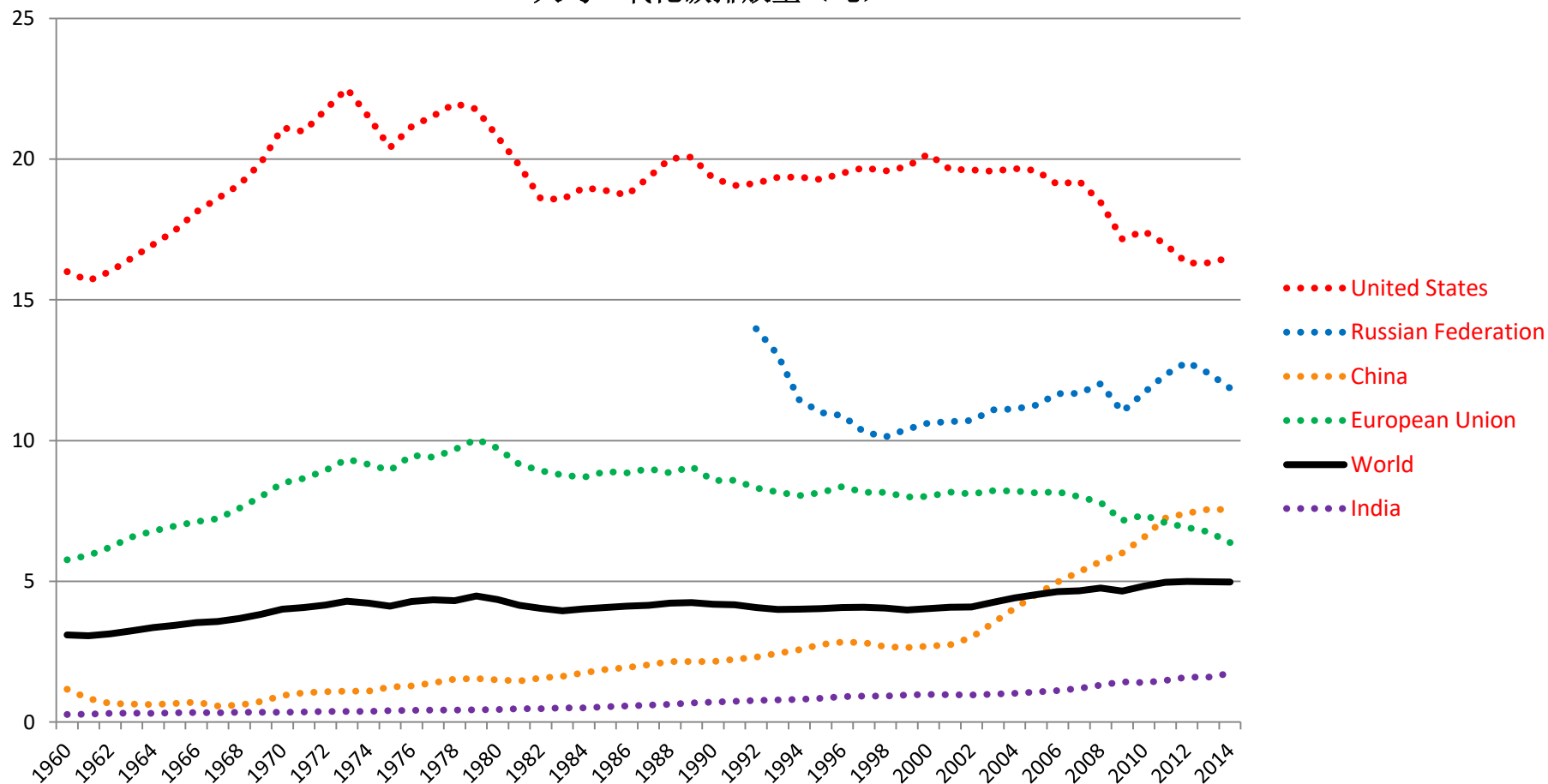


Emissions (all greenhouse gases, all sources and sinks) 排放物 (所有温室气体源和汇)



Source: Historical emissions data: inventories data to the UNFCCC emissions with land use, land-use change and forestry; for China and India data from EDGAR, all GHG emission, all sources and sinks, excl. forest and peat fires

CO₂ Emissions per capita (metric tons) 人均二氧化碳排放量（吨）



EU climate and energy targets 欧盟气候与能源目标

2020

-20 %*
**Greenhouse
Gas Emissions**
温室气体排放量

20%*
**Renewable
Energy**
可再生能源

20%*
**Energy
Efficiency**
能效

10%*
Interconnection
互连

2030

≤-40%*
**Greenhouse Gas
Emissions
(domestic)**
温室气体排放量（国内）

≥27%*
**Renewable
Energy**
可再生能源

≥27%*
**Energy
Efficiency**
能效

15%*
Interconnection
互连

* Compared to 1990
1990年相比

2030 EU Climate policy overarching policy

2030年欧盟环境保护政策首要战略架构

ETS
碳排放交易体系覆盖领域
-43%*

**Including: Power/Energy
Sector and Industry,
Aviation**

包括：电力/能源领域与相关工业，
航空

**Max 100
MtCO₂eq**
至多100吨二氧化
化碳当量

ESR
减排分担协议
-30 %

**Including: road
transport,
buildings, waste,
agriculture **non**
CO₂**

包括：道路交通，
建筑，垃圾，农业

Non-ETS

碳排放交易体系未覆盖领域
-30%*

LULUCF
土地利用与森
林领域

"No-Debit"
“不可借记”

（即企业采取其他
行动抵消生成的温
室气体量）

**Full
flexibility**
极大灵活性

**Max 280
MtCO₂eq**
最多280公
吨二氧化碳

Overview: 2050 Low Carbon Economy Roadmap

概览：2050年低碳经济路径图

80% domestic reduction in 2050 is feasible:

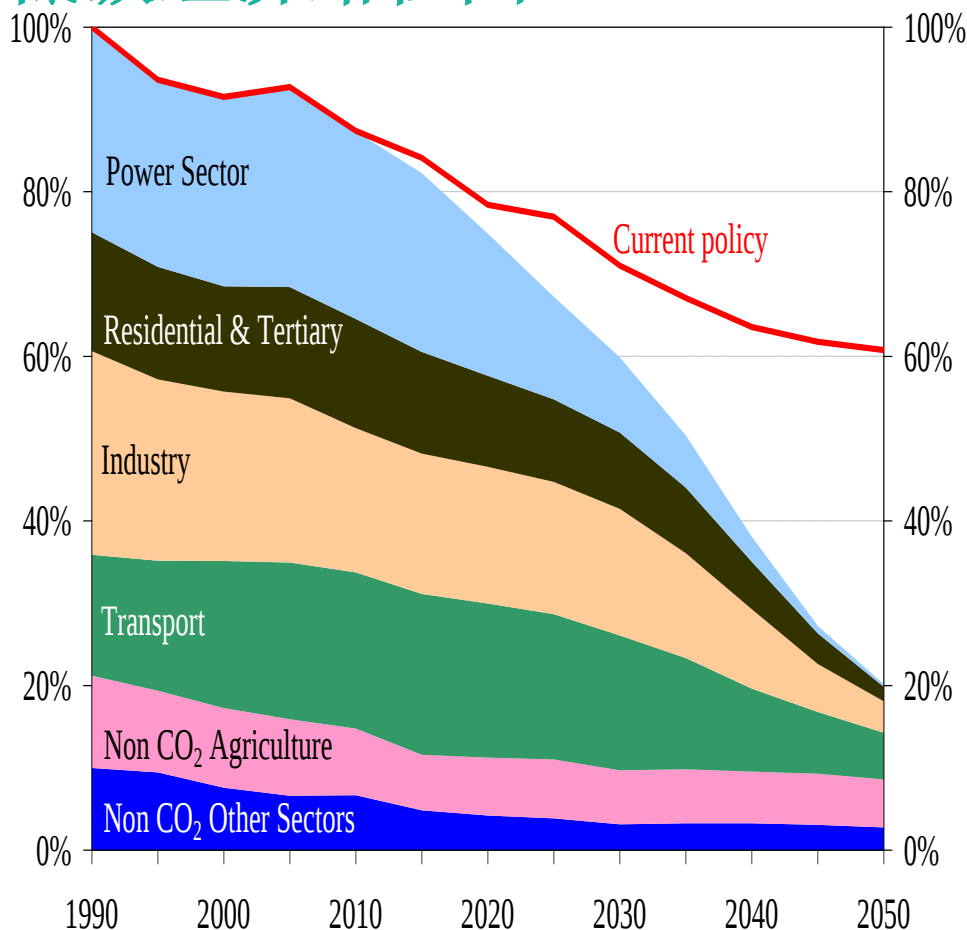
至2050年国内减排80%是可行的，
如果我们：

- ★ With currently available technologies
- ★ 使用最新科技
- ★ With behavioural change only induced through prices
- ★ 通过价格变化改变民众消费行为
- ★ If all economic sectors contribute to a varying degree & pace.
- ★ 所有行业都做出相应贡献。

Efficient pathway and milestones:

有效路径与重要节点：

- ★ -25% in 2020 至2020年减少25%
- ★ -40% in 2030 至2030年减少40%
- ★ -60% in 2040 至2040年减少60%





Reducing greenhouse gases & circular economy go hand in hand

温室气体减排与循环经济相辅相成

Studies estimate that

研究估计

- Today, we extract over 80 billion tonnes of materials per year, of which 7% is reused or recycled by the global economy .

现今，国际上每年提取超过8百亿吨材料，其中只有7%被再利用

- Circular economy can reduce by about half the emissions gap between national climate mitigation commitments for 2030 and the 1.5 degrees trajectory .

循环经济可以完成一半的国家承诺减排量与温度升高1.5度的最终目标。

Circular Economy Package

循环经济一揽子计划

4 Key areas of action

4个核心行动方面



5 Priority sectors

5个优先行业



Innovation & Investment

Circular Economy Action Plan

循环经济行动计划



>80% of actions delivered
超过80%的行动已付诸实践

Actions		Timetable
Production		
Emphasis on circular economy aspects in future product requirements under the Eco-design directive		2016 onwards
Eco-design work plan 2015-2017 and request to European standardisation organisations to develop standards on material efficiency for setting future Eco-design requirements on durability, reparability and recyclability of products		December 2016
Proposal for an implementing regulation on televisions and displays		End 2016 or beginning 2017
Examine options and actions for a more coherent policy framework of the different strands of work of EU product policy in their contribution to the circular economy		2016
Include guidance on circular economy into Best Available Techniques reference documents (BREFs) for several industrial sectors		2016 onwards
Guidance and promotion of best practices in the mining waste management plans		2016
Establishing an open, pan-European network of technological infrastructures for SMEs to integrate advanced manufacturing technologies into their production processes		2016
Examine how to improve the efficiency and uptake of the EU Eco-Management and Audit Scheme (EMAS) and the pilot programme on environmental technology verification (ETV)		2017
Develop an improved knowledge base and support to SMEs for the substitution of hazardous substances of very high concern		2016

Consumption		
Better enforcement of existing guarantees on tangible products, accompanied by a reflection on improvements (upcoming Commission proposal for online sales of goods, and Fitness Check of consumer legislation)		2015-2017
Action on false green claims, including updated guidance on unfair commercial practices		2016
Analysis of the possibility to propose horizontal requirements on repair information provision in the context of Eco-design		2016
REFIT of Eco-label, to be followed by actions to enhance its effectiveness		2016
Assessment of the possibility of an independent testing programme on planned obsolescence		2016
Subject to evaluation of the current ongoing plans, explore the possible uses of the Product Environmental Footprint to measure and communicate environmental information		2016 onwards
Action on Green Public Procurement: enhanced integration of circular economy requirements, support to higher uptake including through training schemes, reinforcing its use in Commission procurement and EU funds		2016 onwards

Waste management		
Revised legislative proposal on waste		Dec 2015
Improved cooperation with Member States for better implementation of EU waste legislation, and combat illicit shipment of end-of-life vehicles		2016 onwards
Stepping up enforcement of revised Waste Shipment regulation		2016 onwards
Promotion of industry-led voluntary certification of treatment facilities for key waste/recycling streams		2016 onwards
Initiative on waste to energy in the framework of the Energy Union		2016
Identification and dissemination of good practices in waste collection systems		2016 onwards

Market for secondary raw materials		
Development of quality standards for secondary raw materials (in particular for plastics)		2016 onwards
Proposal for a revised fertilisers regulation		Early 2016
Proposed legislation setting minimum requirements for reused water for irrigation and groundwater recharge		2017
Promotion of safe and cost-effective water reuse, including guidance on the integration of water reuse in water planning and management, inclusion of best practices in relevant BREFs, and support to innovation (through the European Innovation Partnership and Horizon 2020) and investments		2016-2017

Analysis and policy options to address the interface between chemicals, products and waste legislation, including how to reduce the presence and improve the tracking of chemicals of concern in products	2017
Measures to facilitate waste shipment across the EU, including electronic data exchange (and possibly other measures)	2016 onwards
Further development of the EU raw materials information system	2016 onwards

Sectoral action	
Plastics	
Strategy on plastics in the circular economy	2017
Specific action to reduce marine litter implementing the 2030 Sustainable Development Goals	2016 onwards

Food waste	
Development of a common methodology and indicators to measure food waste	2016
Stakeholders platform to examine how to achieve SDGs goals on food waste, share best practice and evaluate progress	2016
Clarify relevant EU legislation related to waste, food and feed in order to facilitate food donation and utilisation of former foodstuffs for animal feed	2016
Explore options for more effective use and understanding of data marking on food	2017

Critical raw materials	
Report on critical raw materials and the circular economy	2017
Improve exchange of information between manufacturers and recyclers on electronic products	2016 onwards
European standards for material-efficient recycling of electronic waste, waste batteries and other relevant complex end-of-life products	2016 onwards
Sharing of best practice for the recovery of critical raw materials from mining waste and landfill	2017

Construction and demolition	
Pre-demolition assessment guidelines for the construction sector	2017
Voluntary industry-wide recycling protocol for construction and demolition waste	2016
Core indicators for the assessment of the lifecycle environmental performance of a building, and incentives for their use	2017 onwards

Biomass and bio-based materials	
Guidance and dissemination of best practice on the cascading use of biomass and support to innovation in this domain through Horizon 2020	2016-2019
Ensuring coherence and synergies with the circular economy when examining the sustainability of bioenergy under the Energy Union	2016
Assessment of the contribution of the 2012 Bio-economy Strategy to the circular economy and possible review	2016

Innovation and investments	
Initiative 'Industry 2020 and the circular economy' under Horizon 2020	October 2015
Pilot project for 'innovation deals' to address possible regulatory obstacles for innovators	2016
Targeted outreach to encourage applications for funding under EFSI, and support the development of projects and investment platforms relevant to the circular economy	2016 onwards
Targeted outreach and communication activities to assist Member States and regions for the uptake of Cohesion Policy funds for the circular economy	2016 onwards
Support to Member States and regions to strengthen innovation for the circular economy through smart specialisation	2016 onwards
Assessment of the possibility of launching a platform together with the EIB and national banks to support the financing of the circular economy	2016
Engagement with stakeholders in the implementation of this action plan through existing fora in key sectors	2016 onwards
Support to a range of stakeholders through actions on public-private partnerships, cooperation platforms, support to voluntary business approaches, and exchanges of best practices	2016 onwards
Monitoring	
Development of a monitoring framework for the circular economy	2017

2018 Circular Economy Package

2018 循环经济一揽子计划



循环经济
中针对塑
料的欧盟
战略

A European
Strategy
for Plastics
in the
Circular
Economy

Interface
Chemicals
Products
Waste
Legislation

化学产品废
料立法平台

修订港口
接收设施
指令

Revision
of
Directive
on Port
reception
facilities

Circular
Economy
Monitoring
Framework

循环经济
监管体系

关于可氧
化降解塑
料的报告

Report on
oxo-
degradable
plastics

Report on
critical
raw
materials

关于重要
原材料的
报告

A EUROPEAN STRATEGY FOR PLASTICS IN THE CIRCULAR ECONOMY

循环经济中针对塑料的欧盟战略



Improve
the economics
and quality
of plastics
recycling

改善塑料再利用经济与其质量



Drive
investments
and innovation
towards circular
solutions

推动针对循环经济的投资与革新



Curb plastic
waste and
littering

减少塑料垃圾与乱丢废物的情况



Harness
global
action

利用全球行动



The Waste Package: The Way Forward

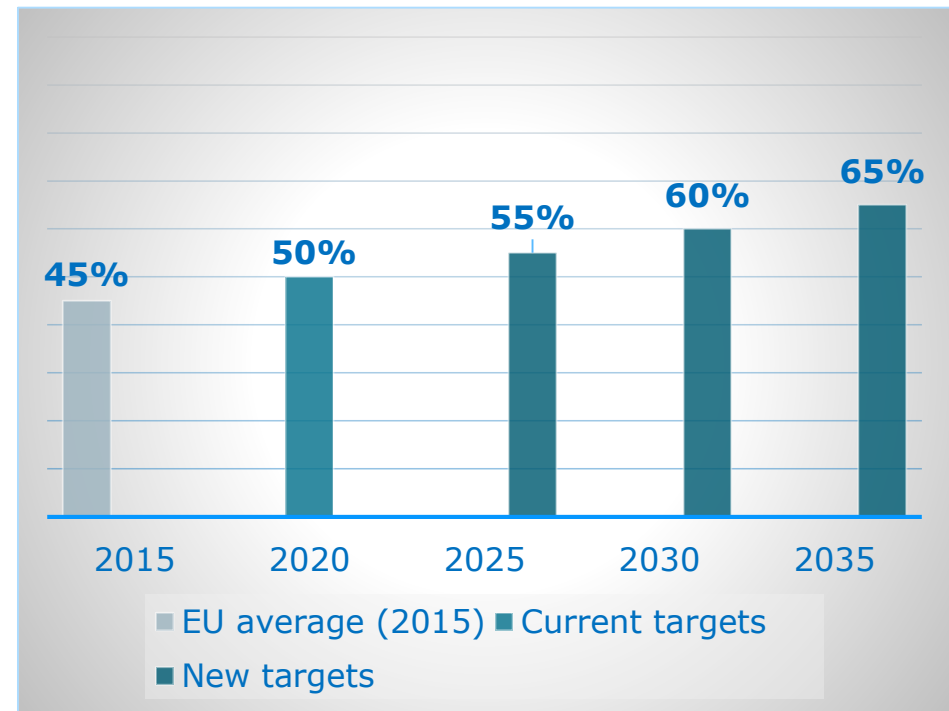
垃圾一揽子计划：向正确的方向风雨兼程

- **Ambitious long-term targets** → recycling of municipal/packaging waste with specific targets for plastic packaging
设定的长期目标 → 制定针对塑料包装的特殊目标，以促进市政/包装垃圾再利用
- Forward-looking **calculation rules**
前瞻的计算方法
- **Landfilling restrictions** for separately collected and recyclable waste
严格控制分类收集的垃圾与可回收垃圾的填埋
- Measures on **prevention** & encouraging the **reuse** of packaging
推行措施，阻止包装产生、鼓励包装被重复使用
- Minimum requirements for **producer responsibility schemes**:
producers to bear the cost of waste management
生产者责任计划的最低要求：生产者承担垃圾管理的费用
- Continuously improving **separate collection**
持续改善垃圾分类收集

Municipal waste recycling

市政垃圾的回收

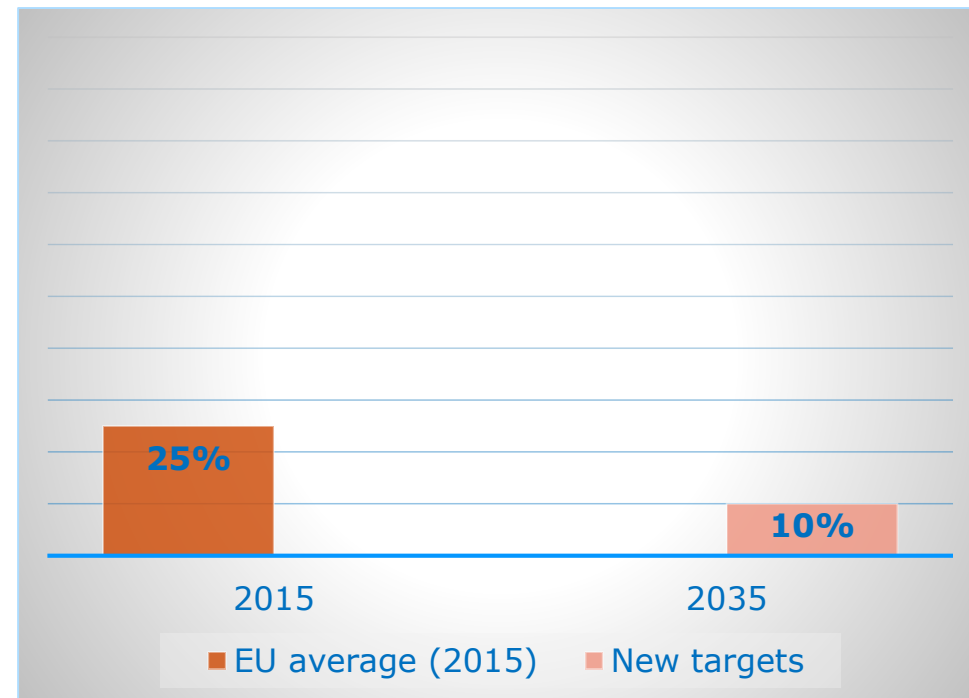
- 5-year extension for countries with a low starting point 发展较慢的国家截止日期延长五年
 - 11 MS: EE, EL, HR, CY, LV, LT, HU, MT, RO, SK, BG
 - 11个欧盟成员国：爱沙尼亚、希腊、克罗地亚、塞浦路斯、拉脱维亚、立陶宛、匈牙利、马耳他、罗马尼亚、斯洛伐克、保加利亚
 - Implementation plans + interim targets
 - 执行计划 + 过渡期目标
- Single calculation method 单一计算方式
 - harmonised definition of municipal waste
 - 对市政垃圾的定义参考各方观点
 - reporting input to recycling?
 - 可回收垃圾输入报告
- High-quality recycling of biowaste
- 有机垃圾的高质量回收
 - counting only separately collected and recycled bio-waste as of 2027
 - 只计算2027年起被分类收集并回收的生物废弃物
- Early Warning 预先警报



Municipal Waste Landfilling

市政垃圾填埋

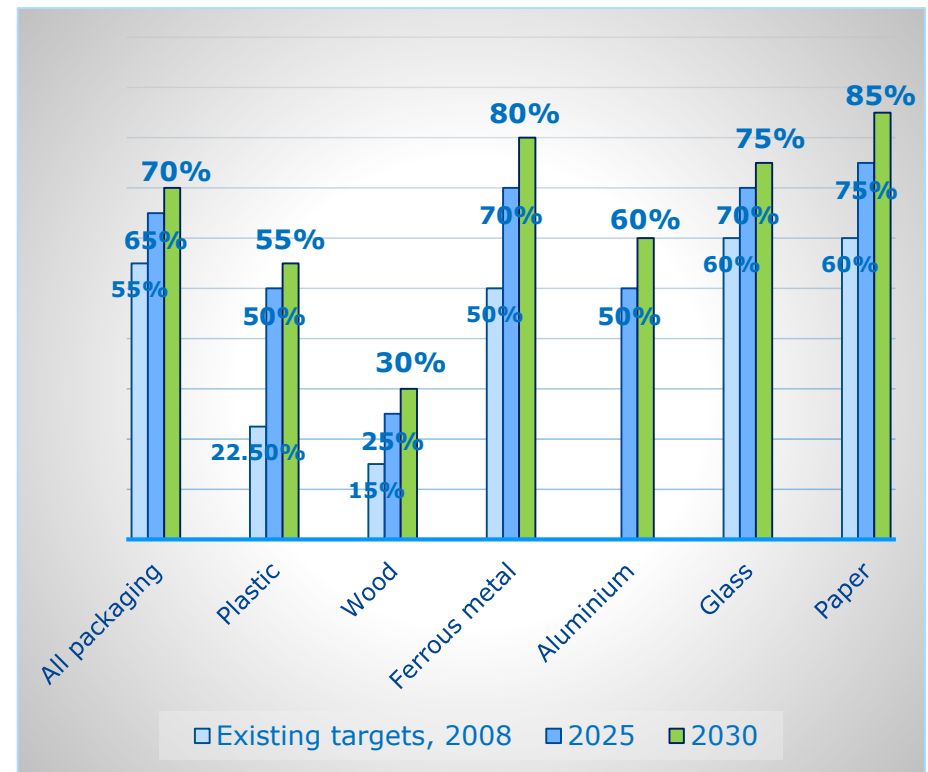
- Ambitious long-term targets
- 设定的长期目标
- Early Warning 预先警报
- 5-year extension for countries with high landfill rates 对高填埋率国家截止日期延长五年
 - 10 MS: EL, HR, CY, LV, LT, HU, MT, RO, SK, BG 10个欧盟成员国：希腊、克罗地亚、塞布鲁斯、拉脱维亚、立陶宛、匈牙利、马耳他、罗马尼亚、斯洛伐克
 - Implementation plan + interim targets
 - 执行计划 + 过渡期目标
- Calculation rules for landfilling
- 填埋的计算规则
- Landfill restrictions for separately collected waste 对分类手机的垃圾进行填埋的制约
- Towards no landfilling of waste suitable for recovery by 2030 到2030年不再有适宜回收物被填埋的目标



Packaging waste recycling

包装垃圾回收

- Ambitious overall targets
- 设定的总体目标
- Ambitious targets for plastics
- 尤其对于塑料的目标
- New targets for aluminium
- 针对铝的新目标
- 5-year derogations (15% on a single material-specific target or divided between two targets) 五年减损 (单项材料15%回收率或者两者结合考虑)
 - Implementation plan + minimum targets
 - 执行计划 + 最低目标
- Taking account of re-use of sales packaging (max. 5%)
- 顾及到销售包装的再利用 (最多5%)
- Taking account of repair for re-use of wooden packaging 顾及到木质包装再利用的维修
- Harmonised reporting: input to recycling
- 兼顾各方的报告: 可回收垃圾输入



Separate collection

分类收集

Current rules 现行规定

- Separate collection to promote **high quality recycling**
- 分类收集旨在促进高质量回收
- Separate collection for at least **paper, metal, plastic and glass by 2015**
- 到**2015年**，至少在纸张、金属、塑料和玻璃四方面实现分类收集

New rules 新规定

- Separate collection of at least paper, metal, plastic, glass, **bio-waste (by end 2023)**, **hazardous household waste and textiles (by end 2024)**
- （到**2023年末**）至少在纸张、金属、塑料、玻璃、有机垃圾五方面实现分类收集，（到**2024年末**）还要实现有害生活垃圾的分类收集
- MS to ensure **selective demolition and sorting systems for C&D waste (material specific)** **欧盟成员国应建筑垃圾（按照材料）拆迁与分拣系统**
- MS to ensure that separately collected waste is not incinerated unless incineration delivers a better environmental outcome
- 欧盟成员国应确保，除非分类收集的垃圾通过焚烧带来更好的环境效益，否则分类收集的垃圾不可被焚烧

NDRC – European Commission MoU on Circular Economy

国家发改委与欧盟委员会达成循环经济谅解备忘录





Learn more about the plastics strategy and the circular economy

了解更多塑料垃圾政策与循环经济请点击

http://ec.europa.eu/environment/circular-economy/index_en.htm