



Recommendations to City CAAP Development

中国城市编制清洁空气行动计划的改进空间

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第8届CAI-Asia中国城市空气质量管理研讨会
杭州，2012年5月



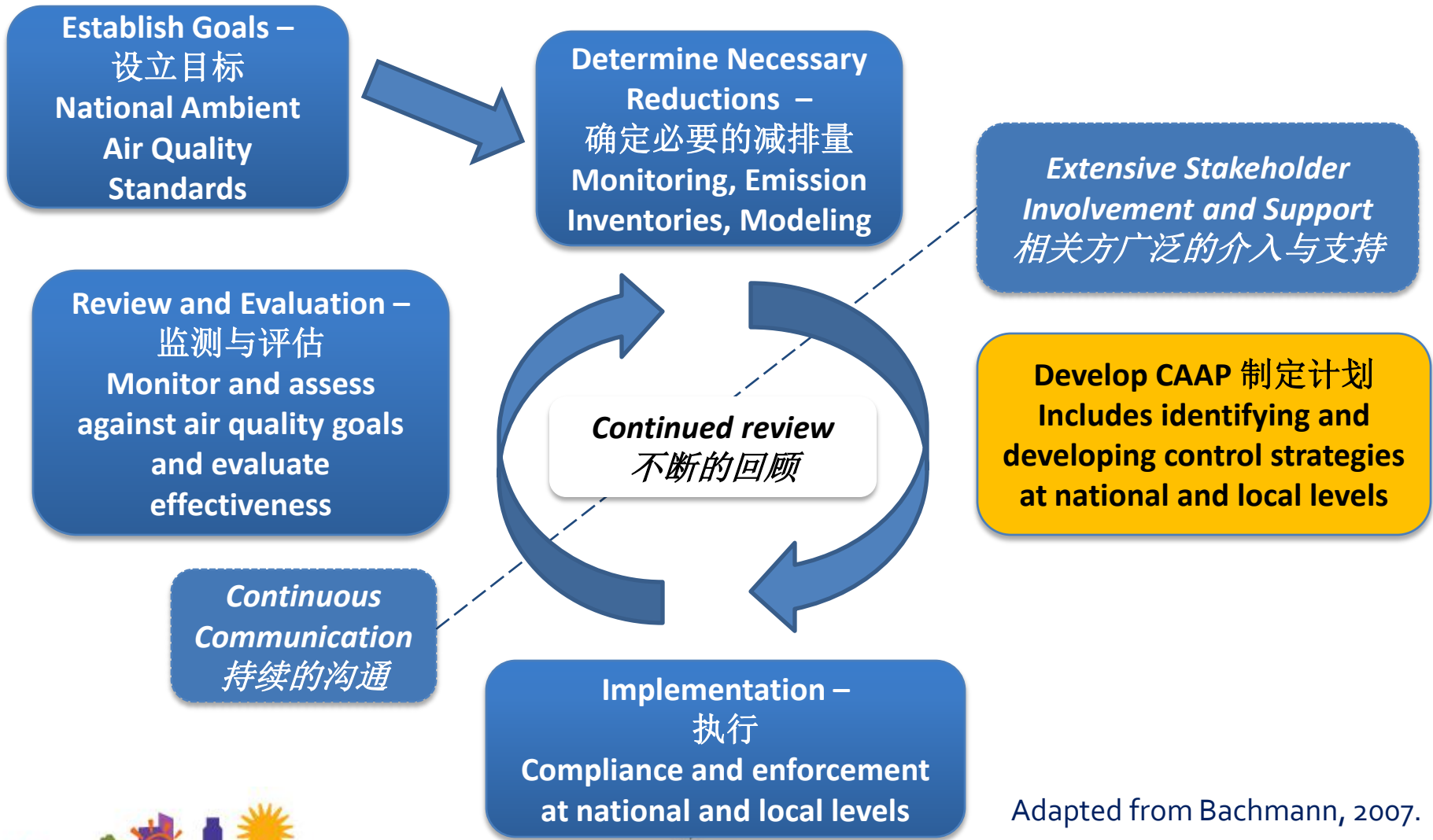
Process for developing CAAP recommendations

演讲内容：编制行动计划推荐的流程



Step 1. Framework of Air Quality Management

空气质量管理体系



Adapted from Bachmann, 2007.



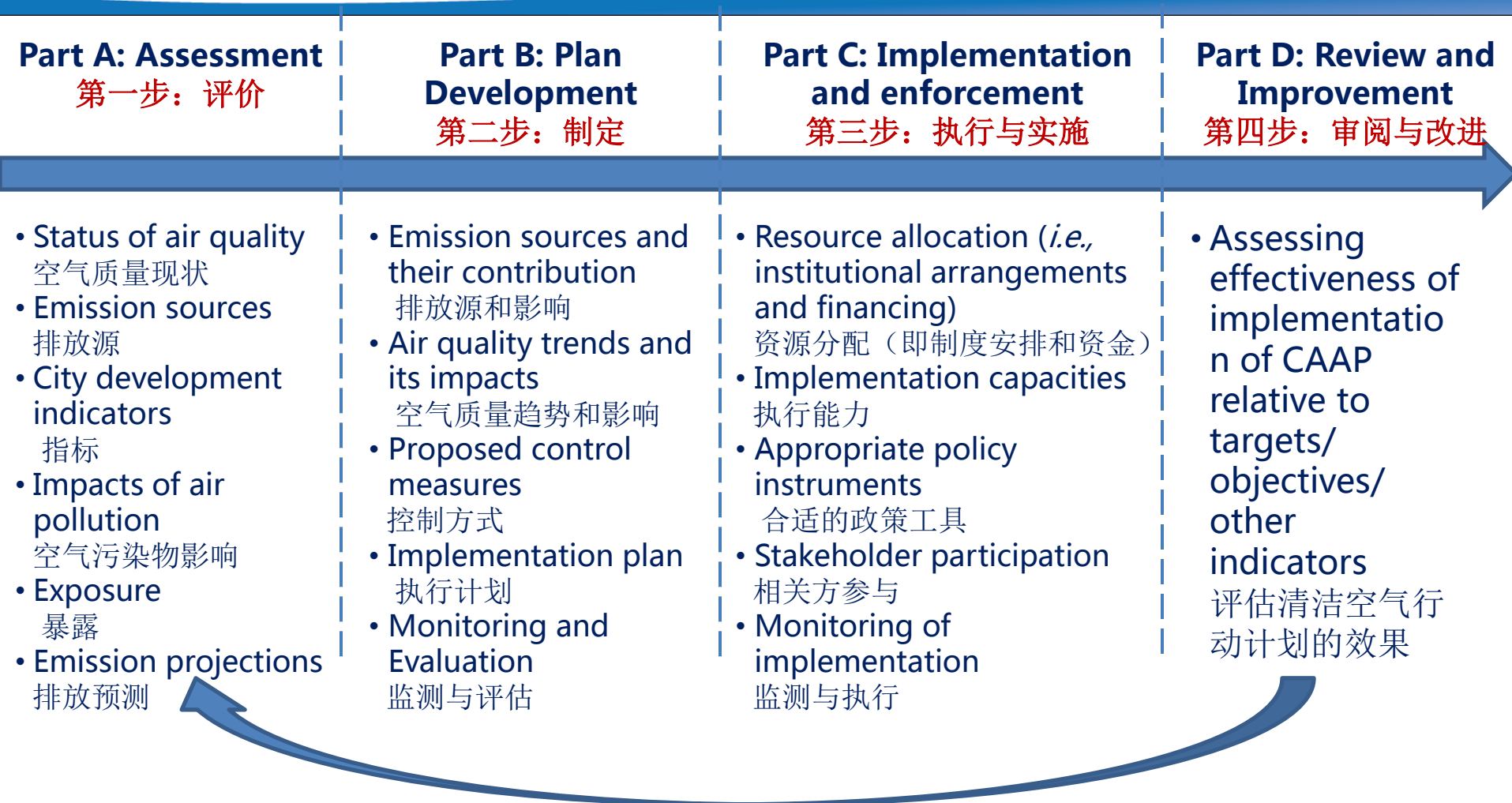


- “Simply describes the air pollution problem and lays out a path to its solution” 简单的描述空气污染问题并提出解决途径
- Handbook of AQM, <http://www.aqbook.org/>
- “It outlines instruments and strategies to comply with air quality and emission standards, adopt control measures, and implement them.” 达到空气质量与排放标准，采取并实施控制措施
- SEI, 2008.
- We are not doing something completely new: there are existing platforms which can be used as basis: Clean Air Implementation Plan, AQ Management Plan, Blue Skies Plan, AQ Strategy, AQ Action Plan 也称作清洁空气实施计划、空气质量管理工作计划、蓝天计划、空气质量策略、空气质量行动计划等。
- What we are doing: Improving components and the process and avoid relating plans and competing with one another 改进与避免额外工作



Clean Air Action Planning Process

清洁空气行动计划流程



Stakeholder Participation 相关方参与
Communication (Clean Air Reporting) 信息交流（清洁空气报告）

Part A: Assessment (1)

第一步：评价（1）



Gain understanding and assess: 了解和评价

- General information 大致信息
 - Geography and climate 地理和气候方面
 - Population and urbanization 人口和城市化
 - Economy and industry 经济和工业
 - Energy and Transportation 能源和交通
- Sources of air pollution 污染源
 - Emissions inventory 排放清单
 - Spatial distribution and source contribution 空间布局和排放源影响
 - Emissions from mobile and stationary sources 移动源和非移动源排放
 - **Future projections of emissions 排放预测**
 - **Source apportionment 源解析**
- Status of air quality 空气质量现状
 - Air quality monitoring results 空气质量监测结果
 - **Modeling results 模型结果**
 - Pollutants of concern 主要污染物
 - API and concentration trends and tendencies 空气污染指数和浓度趋势
 - Comparison to air quality goals/standards 和空气质量目标/标准做比较
- **Impacts of air pollution 空气污染影响**
 - Health impact assessments, exposure studies 健康影响评价，暴露污染源调查
 - Environmental, economic impacts 环境、经济影响



- **Guide Question: Does your city undertake assessment? How often and with whom? 问题：您所在城市多长时间做一次现状评估，参与方包括？**
- This can be answered using the **Clean Air Management Assessment Tool (CAMAT)** – linked to Index 2 (Clean Air Management Capacity)

可以使用清洁空气管理评价工具（CAMAT）-和指标2（清洁空气管理能力）相关联



Part B: Plan Development

第二步：计划制定



Clean Air Management Information

清洁空气管理信息

- General city information
- Monitoring data 数据
- Modeling (air quality and exposure) 模型
- Emissions inventory 清单
- Source apportionment
- Goals and regulations 目标
- Cost analysis
- Local impacts of air pollution



Clean Air Action Plan

清洁空气行动计划

- **Control measures 控制措施**
 - short, medium and long term 短中长期
 - Mobile, stationary and area sources 移动，点面源
- **Implementation strategies 实施方案**
- **Institutional arrangements 机构设置**
- **Resource allocation 资源分配**
- **Policy instruments**
- **Review and evaluation**





Issues to be considered 需要考虑的问题

- objectives to be achieved 要达到的目标
- policy instruments available 可用的政策工具
- likelihood of success and risk factors for control measures 控制措施中的成功几率和风险因素
- social and economic costs and benefits 社会经济成本与收益
- policy reforms and institutional strengthening to support implementation 政策改良与加强机构，以支持实施
- Monitoring and evaluation, 监测与评估
- feedback mechanism from different stakeholders 不同相关方的反馈机制
- cost-effectiveness and who bears the costs 性价比和谁承担成本
- ease of implementation of the strategy 战略的实施

了解和明确各自的职责



- 评估的目的和指导性问题
 - evaluation of the effectiveness of intervention strategies and action plans and 评估控制措施和行动计划的有效性
 - achieve compliance with standards and benefits are realized 是否达到或符合相关标准，预期收益是否实现
 - continuous basis (each year) to assess the progress 持续不断的评估实施进程
 - appropriate indicators must be developed 设定相关恰当的指标—衡量进程
 - refinement of the problem and the objectives 优化和改进发现的问题和计划目标
 - Does the environmental challenges stipulated in the plan still hold? Are there emerging issues that must be addressed?
之前行动计划中的环境问题是否还存在？是否有新问题出现需要被解决？
 - What phases/activities needs more funding support? 某些项目措施是否需要更多的财政拨款

Cities Covered in the Review

梳理调查中的清洁空气行动计划有哪些？



China	Qingdao	2011年青岛市“汽车尾气污染防治大行动”工作方案/2011 Action Plan for Automobile Exhaust Pollution Control
	Hangzhou	杭州市大气环境整治第七阶段（灰霾天气专项整治）实施方案/7th Phase Implementation Plan for Atmospheric Environment Improvement (on Haze and Smog)
	Jinan	济南市大气污染防治“十二五”专项规划/Jinan Air Pollution Control "12th Five-Year" Special Planning
	Chongqing	重庆市主城蓝天行动实施方案/Action Plan for Central City Blue Sky Initiative
	Beijing	北京市清洁空气行动计划（大气污染控制措施）/Clean Air Action Plan (Air Pollution Control Measures)
	Tianjin	天津市2008年蓝天工程实施意见/2008 Implementation of Blue Sky Project
	Urumqi	乌鲁木齐市大气污染综合防治规划/Comprehensive prevention and treatment planning
英国	Birmingham	Air Quality Action Plan
	Dublin	Regional Air Quality Management Plan
	Newham, London	London Borough of Newham Air Quality Action Plan
加拿大	Vancouver	Integrated AQ and GHG Management Plan
	Ontario	Clean Air Action Plan: Protecting Environmental and Human Health in Ontario
南非	Johannesburg	AIR QUALITY MANAGEMENT PLAN
澳大利亚	Perth	Air Quality Management Plan
亚洲	Colombo	Clean Air 2000- Action Plan for Air Quality Management in the Metropolitan Area
	Istanbul	Air Quality Strategy

Background Information 背景信息

- Covered Period 时间周期
- Date Completed/Approved; Status 完成、批准时间；目前状态
- Geographic Coverage 地理范围
- Pollutants Covered 包括的污染物; Targets/Objectives 目标
- Agency/Office who Prepared Plan 计划制定主要负责单位
- Pages 页数
- Previous Plan available?; Integration with Other Plans 和其他计划相结合

Components of Plan 行动计划的组成元素

Control Measures/Approaches 控制措施、方法



Input from Chinese cities on CAAP - (1) Control Measures



调研结果 - (1) 控制方法

Transport and Land Planning 交通与土地规划	Stationary 固定源、点源	Other Sources 其他源（面源）
<ul style="list-style-type: none"> ✓ 黄标车、新车排放标准、清洁能源和新能源汽车(Fleet) ✓ 机动车检验机构规范化/Vehicle Inspection and Maintenance ✓ 全面销售国III标准车用燃油、开展油气排放污染治理/Fuel Reformulation, Pricing ✓ 加快发展公共交通系统 /Improving public transport to reduce traffic volumes ✓ Transportation Planning and Traffic Management; Using area planning measures to reduce traffic volumes 交通规划、流量管理；区域与土地规划 	<ul style="list-style-type: none"> ✓ 工业企业废气及饮食服务业 ✓ 燃煤及粉（烟）尘大气污染 /Air pollution control from coal-fired ✓ Reduce air contaminant emissions from residential heating sources 居民取暖过程中的空气污染物排放 ✓ Waste (Incineration, Landfills and Wastewater treatment) 废水废物（焚烧填埋）处理 	<ul style="list-style-type: none"> ✓ 扬尘（建筑工地施工）污染防治/Dust pollution prevention

Input from Chinese cities on CAAP - (2) Control Measures



调研结果 – (2) 控制方法

General AQM 常规管理措施	Pollutant Specific Control 污染物特别控制
<ul style="list-style-type: none">✓ 宣传活动/Community Education; Increase public understanding of air quality (and climate change) issues and public engagement in clean air programs✓ 加强能力建设, 提高管理水平✓ Health Research 健康影响研究✓ AQ Monitoring, Emission Inventory, Modeling Improvements 监测、排放清单、模拟分析✓ Standard Setting 标准设定	<ul style="list-style-type: none">✓ 挥发性有机物/VOCs✓ 臭氧和细粒子/Ozone and fine particle✓ 废气、恶臭污染✓ Haze and Smoke; Air contaminants and precursors that can degrade visual air quality 灰霾与烟雾, 影响能见度的空气污染物
Institutional Changes 机构、机制转变	Energy & Climate 能源与气候变化
<ul style="list-style-type: none">✓ 产业结构调整、限制高污染行业发展/Industrial restructuring✓ 产业布局调整、开展生态工业园区建设 /Adjustment of industrial layout, Cleaner Production✓ 生态建设与修复工程、环保新技术应用工程✓ Visual air quality management program 空气能见度管理项目	<ul style="list-style-type: none">✓ 能源结构调整、构建绿色能源体系/Adjustment of energy structure✓ 集中供热/Central heating planning✓ Energy Efficient Buildings 建筑节能✓ Reduce carbon footprint of the regional economy✓ Reduce emissions of short-lived climate forcings✓ Explore opportunities for carbon sequestration

Recommended components of a Clean Air Action Plan 清洁空气行动计划重要组成元素



- Executive Summary and Foreword 执行摘要
- Introduction and Background 背景介绍
- Legal Framework/Legislative and Policy Context 法律与政策背景
- Roles and responsibilities in AQ management
空气质量管理工作中的角色与责任（政府，国家/省/市）
- Baseline Assessment and AQ Management System 现状、基线评估与
空气质量管理系统
- Formulation basis and guidelines 指导思想与基本原则
- Targets and Goals 目标设定
- Development of the action plan 行动计划的制定
- Implementation of the action plan 行动计划的实施
- Monitoring and Evaluation 监测与评估
- Resource commitment (Institution, financing, policy, technology, social)
资源分配（机构、经费、政策、科技、社会）

Comparison: Jinan's existing plans 济南的现状



《济南市大气污染防治“十二五”专项规划》

Missing components: 缺失的章节:

Executive Summary and Foreword 执行摘要与前言

Introduction and Background 背景介绍

Roles and responsibilities in AQ management 空气质量管理工作中的角色与责任
(政府, 国家/省/市)

Impact on public health and the environment 对健康与环境的影响

Process of development 制定的流程

Expected impacts 预期的影响

Analysis of costs and feasibility 成本与可行性分析

Institutional Arrangements (enforcement procedures) 机构安排、负责单位

Steps, working periods, timeline 步骤、工作阶段与时间安排

Monitoring and Evaluation 进度追踪与定期评估



Comparison: Hangzhou's existing plans 杭州的现状



规划名称/Name of Plan	《杭州市“十二五”大气污染防治规划》	《杭州市“十二五”主要污染物总量减排规划》	《杭州市大气环境整治第七阶段（灰霾天气专项整治）实施方案（2010—2012）》
规划期/Period covered:	2011-2015	2011-2015	2010-2012
批准日期/Date Approved:	Oct, 2011	June, 2011	Feb, 2010
包含污染物/Pollutants Covered:	SO2, PM10, NO2	SO2, NOx	SO2, PM10
规划编制单位	杭州市环境监测中心站, 南开大学		
规划发布单位/Agency issued the plan	杭州市环境保护局 Hangzhou Environmental Protection Bureau	杭州市主要污染物减排工作领导小组办公室	杭州市人民政府办公厅 General Office of Hangzhou Municipal Government
参与执行部门/Other agencies involved in implementation	各区、县（市）政府, 杭州经济开发区管委会 市环保局 交通警察局 市城建投资集团 市财政局 杭钢集团 杭州市政府	各区、县（市）政府, 杭州经济开发区管委会 市环保局 市建委 市经委 市财政局 市公安局	市环保局 各区、县（市）政府, 杭州经济开发区管委会 市公安局交通警察局 市建委 市发改委 市城管办 市城建投资集团

CAAP Process Jinan: 行动计划制定的过程 – 济南



- 1、环保规划包括专项规划编制由**环保局分管科室**组织，指定机构（**济南市十二五环保规划及其专项规划有济南市环境规划设计研究院和济南市环境监测中心站**承担）
- 2、编制环保规划大纲和编制规划文本应由**分管科室**组织**专家论证**，专家论证后，应当出具书面论证意见，由**专家**签名确认
- 3、编制文本应当采取座谈会、协商会向**社会各界**征求意见
- 4、意见归类整理，对合理意见应予以采纳；未予采纳的应当说明理由
- 5、规划正式文本完成后，应由**主管局长**审核并报局长审定或提交局办公会议审定
- 6、审定后的文本由局办公室上报**市政府**批准

济南市十二五环境保护规划与2010.5开始启动，2011.6总规和各专项规划编制完成并进行了验收，9月报请市政府批准



CAAP Process Hangzhou: 行动计划制定的过程 – 杭州





- What was the process followed in preparing your recent clean air action plan? E.g., 12th FYP Air Pollution Prevention and Control
- 您所在城市行动计划/规划制定过程是什么？
- Can you describe the steps as a flowchat? 能否用流程图说明？





- 1、评估总结规划实施中期执行情况。重点说清评估年底前环保规划目标、指标、任务、措施完成情况。
- 2、分析规划实施的经验和存在的问题
- 3、明确下一步规划实施的重点。落实各地规划实施责任，提出强化规划执行的机制、制度与政策层面的建议
- 4、初步预测2010年规划实施情况。分析经济社会、资源能源等形势发生变化对规划实施产生的影响，依据规划中期实施情况，预测完成情况，并进行规划目标的可达性分析



Recommendation of JN and HZ Clean Air Action Plans 济南/杭州现有计划建议



- To incorporate components which are actually being conducted but are not documented in the plan 考虑包含所有我们所推荐的重要元素
 - Jinan's monitoring and evaluation of the progress of CAAP 济南的监测与评估情况
- In Hangzhou there are three plans relating to AQM 杭州的三个相关计划
 - Either to come-up with one plan 合并为一个?
 - Each plan describe the relationship of the different plans 规划中提及与其他规划的联系与区别
- Consider a long-term vision/strategy linked with clean air action plans 整体的、长远的思路
 - Urumqi 乌鲁木齐
 - Beijing 北京
- Learn from best practices from international and local CAAPs 吸收国内外城市的最佳实践
- 协同效应、部门合作、机制转变，实现空气管理与应对气候变化的双赢



《国家环境保护“十二五”规划》解读素材

- 编制背景
- 编制工作情况
《规划》编制研究工作于 2008 年底启动，始终坚持“开门编规划”的原则，经过深入基础研究、充分咨询论证、广泛征求意见、不断修改完善，最终形成了《规划》（报批稿），顺利通过国务院审议并印发实施：
 - 领导有力，组织高效
 - 实践与总结
 - 独立研究、凝聚智慧
 - 专家建议、公众参与
 - 科学的论证过程
 - 不同政府部门达成一致意见
- 《规划》的主要特点
- 如何推进《规划》实施，取得良好成效





山东省是环境保护部确定的全国唯一的规划编制试点省份

- 目标、策略、项目三位一体，计划性、系统性、科学性、指导性贯穿其中，《规划》投资**1356**亿元的十大类工程**4000**余个项目，分别落实到**13**个专项子规划和所辖**17**个市的环保规划中，《规划》的可操作性和目标可达性
- 环保厅厅长副厅长多次参与研究讨论、开放式编制规划的方式、专家咨询委员会、发放调查表和网上调查的方式
- 大气污染防治项目主要包括工业废气及异味污染治理、扬尘污染控制和机动车尾气污染控制项目，共计**1329**个，投资**227**亿元。

http://www.mep.gov.cn/zhxx/hjyw/201202/t20120210_223318.htm



For discussion: 为讨论准备的问题

what do you think of the outline 你对计划中关键元素的想法

Which one do you think is/are the most/least important? 你觉得哪一点是最重要或最不重要的?

do you have something similar? How many? 在你了解的情况里，有哪些是已经有但没有被包括在规划正文里的？

do you want to include them in the plan 你觉得这些应该被包括么

if you don't have them, what's the situation and challenges? 如果你的城市还没有其中一些，原因是什么？有哪些困难么？

do you need any assistances 你在哪些方面需要帮助

Resource allocation for CAAP (including organizations involved) 资源分配，有哪些机构参与在计划制定和执行之中？

Control measures you're taking now? And mechanism for co-operation.

Challenges for other agencies. 控制措施中的政府部门合作问题，他们各自面临的困难在哪里？



For more information: www.cleanairinitiative.org



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