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# European experiences of energy management in sustainable buildings - a policy perspective 从政策角度看欧洲生态建筑能源管理经验

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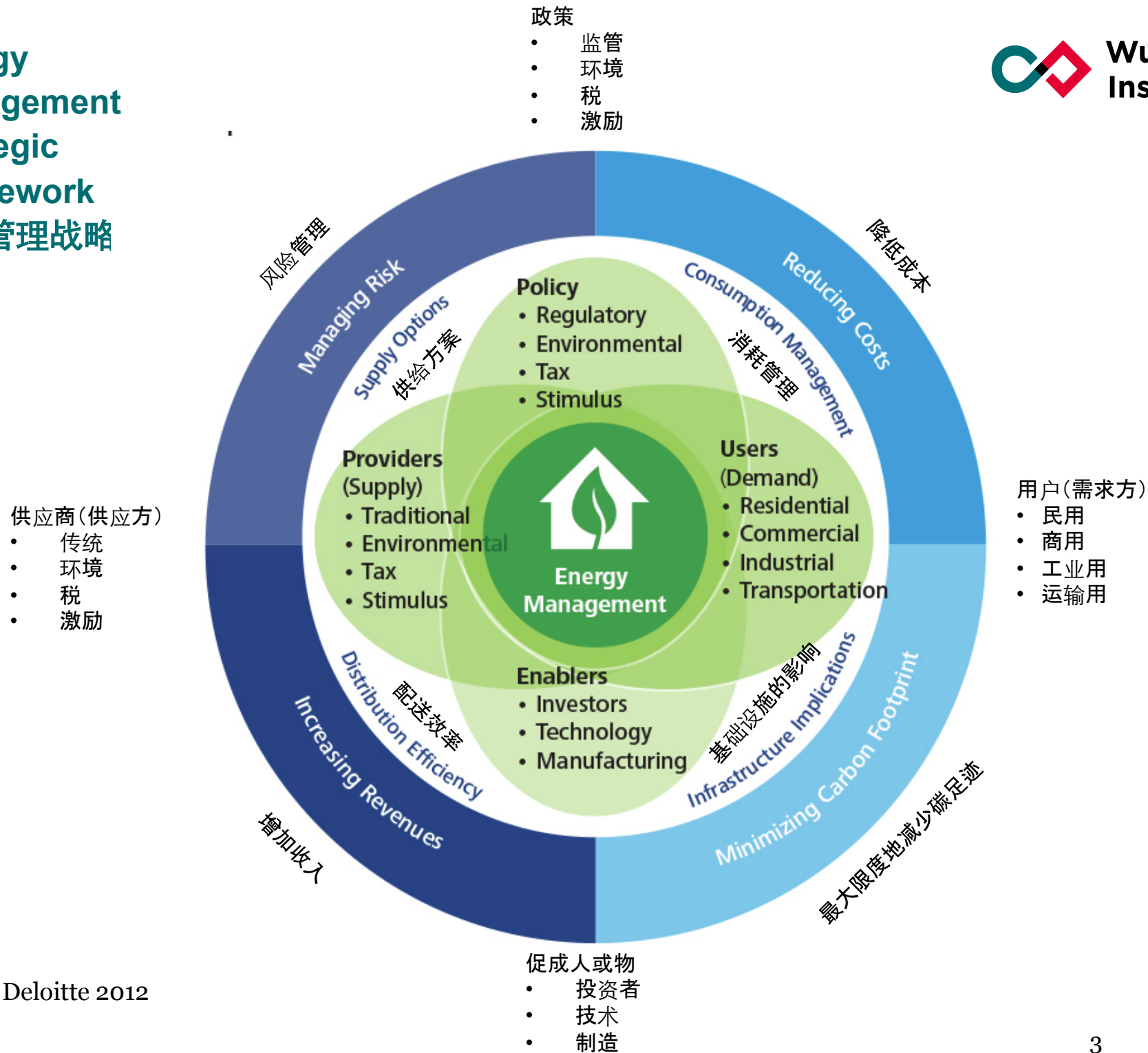
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➤ **Typical Weakness and Stumbling Blocks**  
典型性障碍及劣势

- A lack of overview of the energy system and on where energy is consumed  
缺乏对能源系统和消耗能源处的整体了解
- Energy costs increase  
能源成本增加
- Insufficient communication between the departments  
部门间沟通不足
- Top management wants to strengthen the company's competitive edge on the market  
高层管理人员希望提高公司市场竞争力
- Regulatory requirements  
监管要求
- ➔ **Energy Management can address all these stumbling blocks**  
➔ 能源管理可以解决上述全部绊脚石

# Energy Management Strategic Framework

## 能源管理战略框架



Source: Deloitte 2012

# Energy Management Framework– from the international to the national level

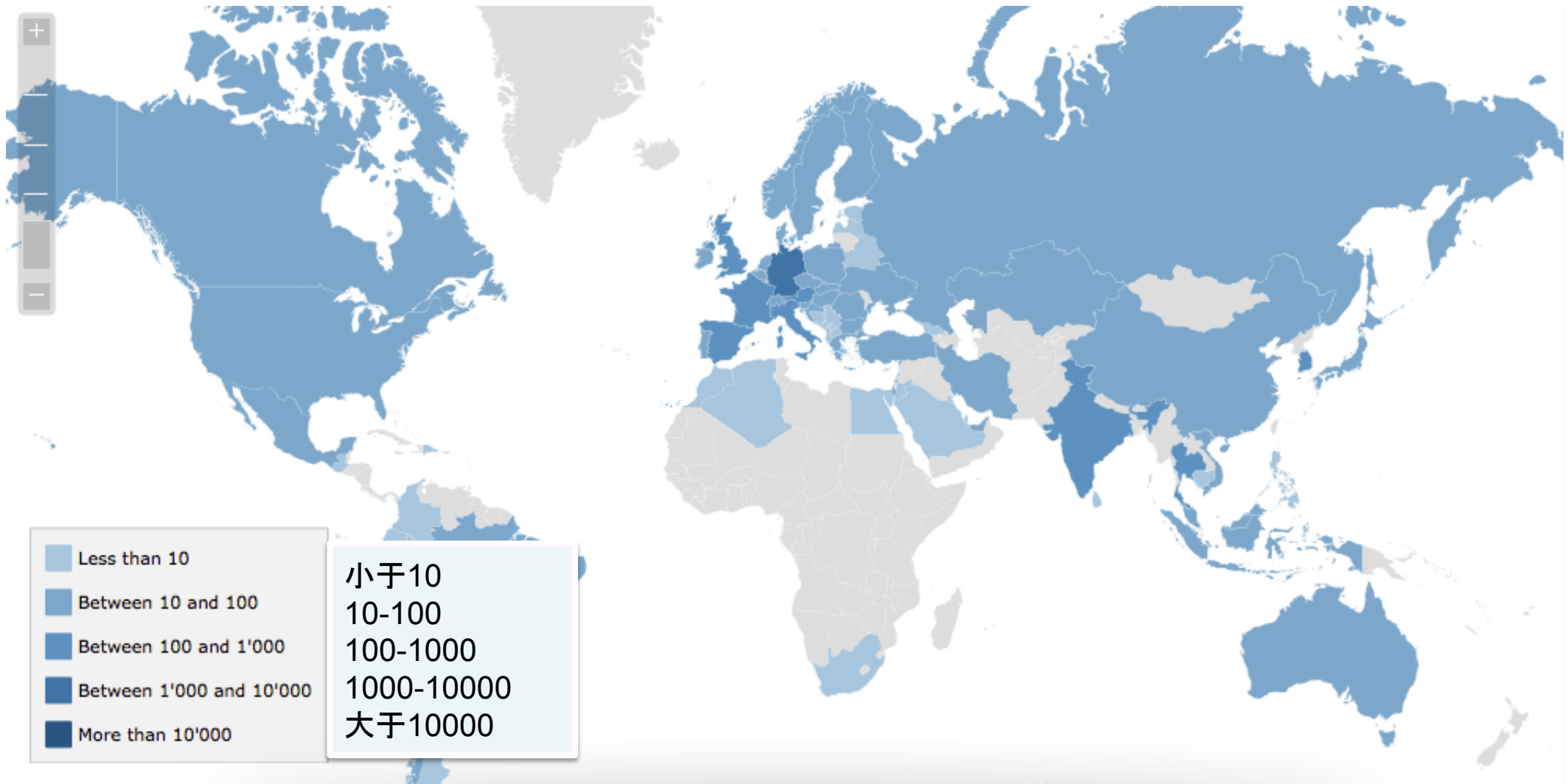
## 能源管理框架-全球到国家层面

- **International ISO 50001 Energy Management Standard**  
国际ISO50001能源管理标准
- Proven framework for industrial facilities to implement technical and management strategies that cut GHG emissions  
成熟的工业设施能源管理框架，以实施减少温室气体排放量的技术和管理策略
- The standard could influence up to 60% of the world's energy use  
该标准可能影响到世界能源使用量的60%
- **International ISO 14000 Environmental management**  
国际ISO14000环境管理标准
- Criteria for an environmental management system  
环境管理体系标准
- **European Environmental Management System (EMAS)**  
欧洲环境管理体系 (EMAS)
- Voluntary environmental management instrument designed by the EU  
由欧盟制定的自主性环境管理方法
- Goes further than ISO 14000  
比ISO14000更深入



## World distribution of ISO 50001 certificates in 2014

### 2014年ISO50001证书世界分布图



### › **Energy Efficiency Directive - 2012/27/EU Article 8**

### › **欧盟能效指令2012/27/EU 第8条**

- › Member States must ensure that large enterprises carry out energy audits of their building at regular intervals

各成员国必须确保大型企业定期开展建筑能源审计

- › Requirements on the qualification of energy auditors

能源审计人员的资格要求

- › Minimum criteria for energy audits

能源审计最低标准

### **And SMEs? 中小企业?**

- › Article 8(2)

第8（2）条

- › Member States shall develop programmes to encourage SMEs to undergo energy audits and the subsequent implementation of the recommendation from these audits

各成员国应制定计划以鼓励中小企业参与能源审计并执行经审计后提出的整改建议

### › Exemptions from electricity tax 免除电力税

› Since 2007 the electricity tax accounts for 20,5 €/MWh

自2007年以来电力税占20.5€/兆瓦时

› Until 2012 **exemptions** were possible 直到2012年免除电力税成为可能：

- Firms paying more than 1000 € electricity tax per year can apply for 90% reduction  
每年缴纳超过1000€电力税的企业可以申请减少90%
- The industry-specific voluntary CO<sub>2</sub> reduction targets have to be achieved  
特定行业的二氧化碳自愿减排目标必须实现

› Changes in 2013, additional requirements:2013年的政策改动，即增加的要求：

- The manufacturing industry must **prove that they have an energy management system** implemented to receive tax discount  
制造业必须证明已实施了能源管理体系，才能享受税收优惠
- **Alternative systems** are eligible for SMEs (like audits)  
适合中小企业的新能源管理体系（如审计）

› Impact 影响

- About 25,000 firms are eligible to tax reduction 约2万5千家企业拥有减税资格  
About 3000 ISO 50001 certification in 2014 2014年颁发了约3千份ISO50001证书

#### ➤ Exemptions from EEG levy

免除可再生能源附加费用

- Germany uses the Feed-In-Tariff “Renewable Energy Law” (EEG) to support electricity generation from renewable sources

德国采用 “可再生能源法” 上网电费以支持可再生能源发电

- The subsidies are passed on to electricity consumers

电力消费者可享受补贴。

- Exemptions are possible, when companies have an Energy Management System (ISO 50001, EMAS)

如果企业实施了能源管理系统 (ISO50001, EMAS)可免除支付可再生能源附加费用



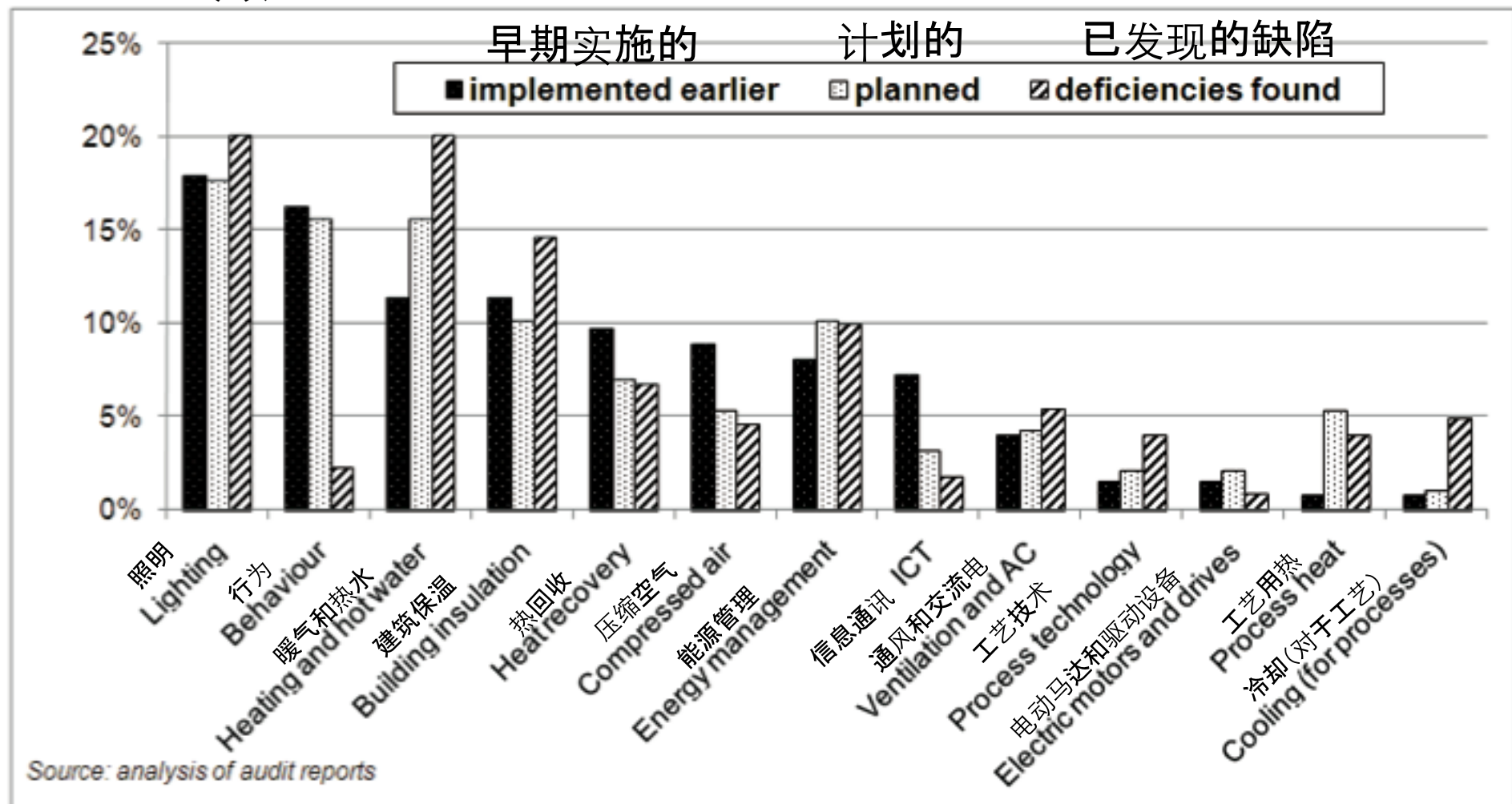
#### ➤ **Special Fund for Small and Medium Sized Enterprises**

为中小型企业设立的专项基金

- Promotes initial and detailed energy audits 促进初步和具体的能源审计
- Initiative of the Ministry of Economy and the KfW Bank group for SMEs  
经济部和德国复兴银行集团为中小企业制定的计划
- Grants for onside energy audits for firms with less than 250 employees  
拨款给员工少于250名的企业以实施能源审计
  - Initial audit: 2 days, up to 80% of costs are granted  
初步审计：2天，拨款占费用的80%
  - Detailed audit: up to 10 days and 60% of costs are granted  
具体审计：长达10天，拨款占费用的60%
- Advisors needs to be certified as energy efficiency advisor  
顾问须持有节能顾问认证
- Connected to the KfW soft loan programme for financing energy-efficiency investments  
与德国KfW信贷银行软贷款计划挂钩，为节能投资融资

### ► Special Fund for Small and Medium Sized Enterprises

#### 中小企业专项基金



› **Energy audit checks 能源审计查验**

- › Implementation of Article 8(2) 第8（2）条的执行情况
- › Free training for companies without energy management systems 为未具备能源管理系统的企业提供免费培训
- › Grants for enterprises: 50% subsidy (maximum value 3,000 €)  
企业资助：50%的补贴（最大值3000€）
- › ENIG: Energy management network  
ENIG：能源管理网络
- › Simplified web-based energy management system: Energy management light  
简易网络化能量管理系统：能源管理照明
- › Main impact: Greater knowledge  
主要影响：更多的知识
- › In 2014, 800 enterprises had been granted aid for energy audits  
2014年，800家企业已获能源审计资助
- › Energy savings of the audits approved and registered is 20%  
20%的节能审计通过批准并登记



#### › SME Model – Energy Management for SMEs

##### 中小企业模式 - 中小企业的能源管理

- › Network of companies that do not have an energy officer, emit less than 1500 tons of CO<sub>2</sub> and spend less than 800,000 € on energy

无能源管理人员的公司二氧化碳的总排放量少于1500吨，能源消耗不到80万欧

- › Energy check-ups 能源核查

- › Company-specific efficiency measures

公司特有的节能措施

- › Target agreement 目标协议

- › Annual monitoring 年度监测

- › Label: CO<sub>2</sub> and kWh reduced 标识：CO<sub>2</sub>减排和用电减少

#### › Advantages: 优点：

- Optimized energy use 优化能源使用
- Simple energy management system 简单的能源管理系统
- Compliance of legislation in Switzerland 符合瑞士法律
- Exemption from the federal CO<sub>2</sub> tax and local requirements
- 免征联邦CO<sub>2</sub>税和免除地方要求
- Award 奖励



➤ **SusBuild Work Package 2**  
**SusBuild工作包2**

- Identify barriers and drivers of energy management in large commercial buildings and of MSME users  
明确大型商业建筑和微小中型企业用户能源管理的障碍和动因
- Show good practice examples in how to encourage MSME users to uptake energy efficiency measures (Handbook and good practice tour)  
展示如何鼓励微型和中小型企业用户采取能效措施的有效方法范例（手册和有效方法浏览）
- Brochure for MSMEs  
微型和中小型企业宣传册
- Information sessions for MSME users and facility managers in commercial buildings  
微型和中小型企业用户与设备管理人员关于商业楼宇的信息通报会

# Making Utopia possible

› Thank you!

感谢！

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