



清华大学能源环境经济研究所
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Energy Data Reporting and Verification in China: Practice and Lessons

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Reporting



ENERGY PRODUCTION

Large scale industry: organized by NBSC and submit seasonal report

Small scale industry: (annual income less than 5 million RMB) organized by NBSC and submit seasonal report

ENERGY CIRCULATION

Coal: CCTDA organize investigation on regional coal sale and report every season

Crude oil: the data of production come from the monthly production report, the purchase comes from seasonal energy consumption report, and the import comes from custom import and export report

Oil products: NBSC organize the investigation and report every season

Natural gas: the circulation between different provinces will be reported by the top 3 petroleum companies

Electricity: data from State Electricity Regulatory Council

Other energy: refer to crude oil

ENERGY CONSUMPTION

Industry: NBSC will investigate the consumption of coal, NG, oil, electricity, etc. and report every season

Agriculture: NBSC organize the investigation and submit annual report

Building: whole investigation should be submitted on survey year, and extrapolated data should be submitted on non-survey years, and the MOHURD should be organized by MOHURD and submit annual report

Transportation:

Rail/air/pipeline: MOR, local railway council, CAAC, pipeline department of the top 3 petroleum companies will investigate the situation and submit annual report

Road/ship/port: NBSC will be in charge of the statistics and report every year

Residence: NBSC spot checks the energy consumption on urban and rural residences and reports every year

Reporting of energy data:

Energy production;
Energy circulation;
Energy consumption;

Reporting



❖ Energy Production

- Above “Statistical level”: Monthly reporting covering all conventional energy types;
- Below “Statistical level”: quarterly reporting of coal production and electricity generation;

❖ Energy Circulation

- Energy flows among provinces;
- COAL: Converge: all coal production and circulating enterprises; Frequency: quarterly; China Coal Transportation and Vending Association;

Reporting



❖ Energy Circulation

- Crude oil: Oil wholesale and retail enterprise, monthly for production, quarterly for circulation;
- Natural Gas: 3 state-owned petroleum and natural gas companies;
- Electricity: China Electricity Enterprise Union;
- Other types: same as crude oil

Reporting



❖ Energy Consumption

- Industrial enterprises: full investigation for above “statistical level”, sample investigation for below “statistical level”, quarterly;
- Agriculture: sample investigation, annually;
- Building industry: full investigation in general investigation year, sample in other years;
- Service industry: Catering, transportation;
- Residential: urban and rural, sample investigation, quarterly;
- Buildings: Ministry of Construction and NBS;

Reporting



❖ Energy Utilization Efficiency Statistics

- Energy consumption per unit physical product or per activity value;
- 25 products, 108 energy intensity indicators, enterprise with energy consumption higher than 25 thousand tce;

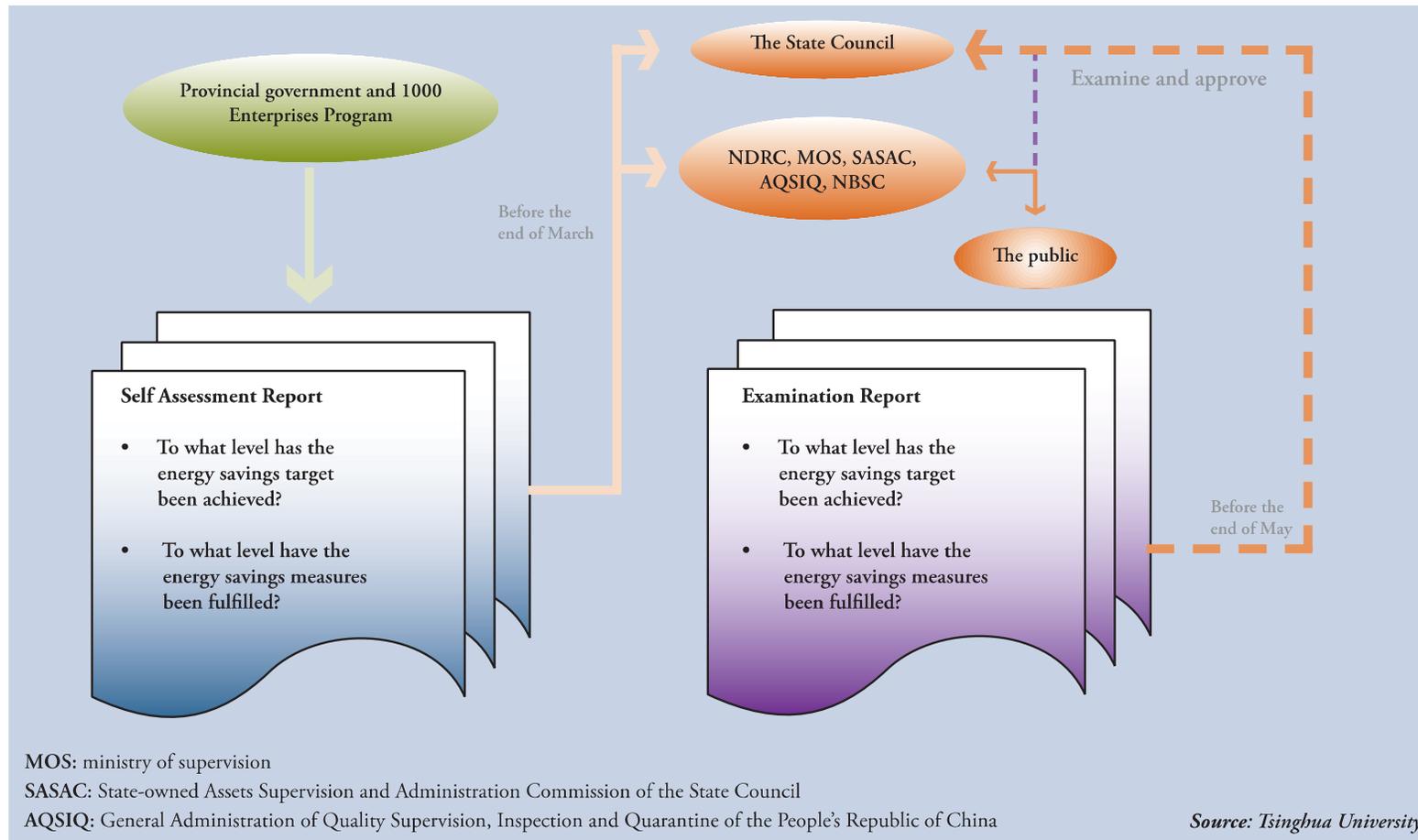
Examination and Verification



❖ Examination during reporting

- New energy type? Why?
- Comparison with previous report, big change? Why?
- Calculation of energy price, not normal range? Why?
- Efficiency of energy conversion, big change? Why?
- Comparison of energy intensity, big change? Why?
- Inter-tables consistency check;

Examination and verification



Energy Auditing



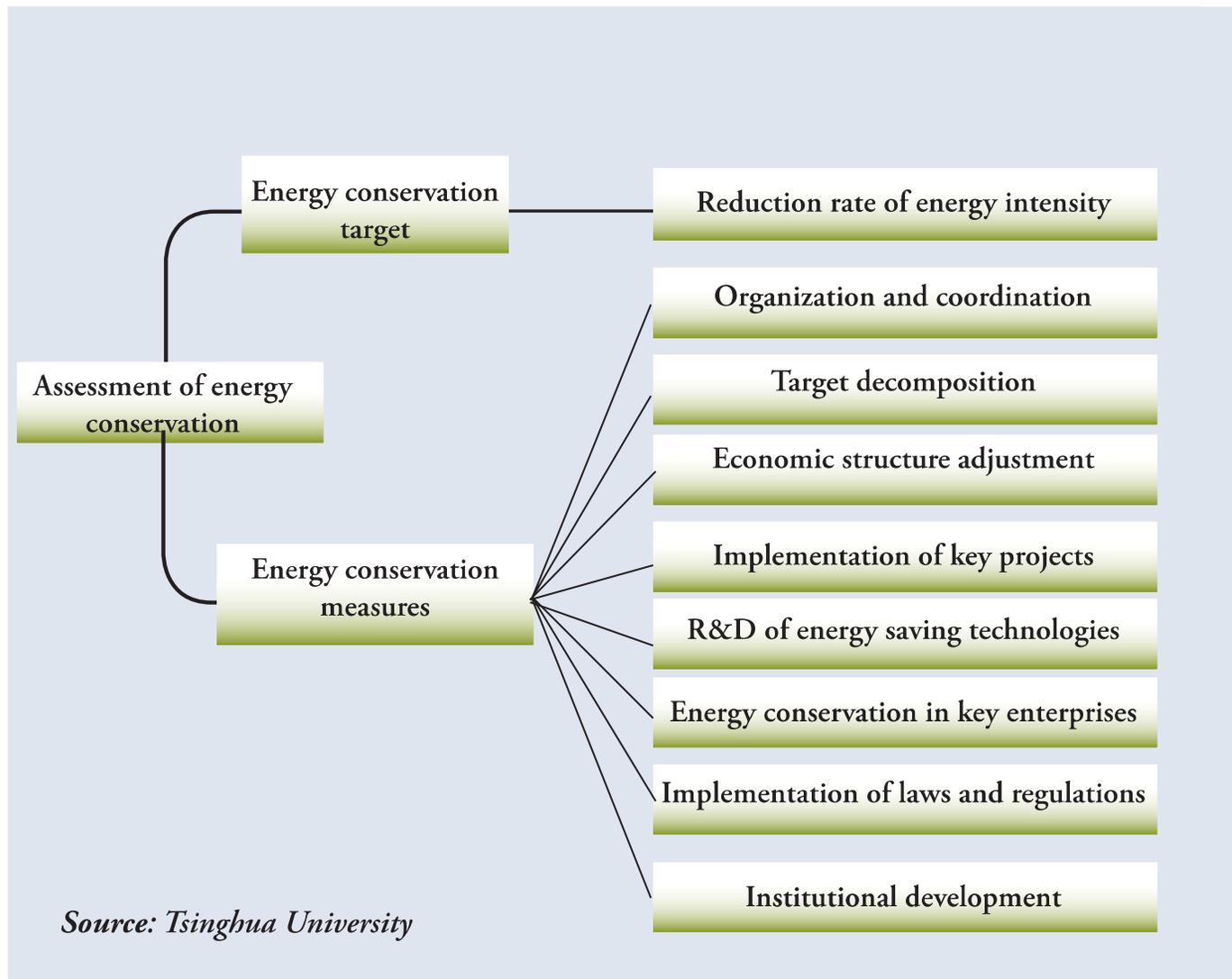
❖ 1000 enterprises:

- Analysis of energy consumption throughout the enterprise;
- Examination of the energy measurement and reporting system;
- Assessment of the efficiency of equipment operations;
- Evaluation of energy use indicators of products and production,
- Conducted by local energy conservation centers;

❖ Subsidies for energy saving:

- Verify enterprises' actual energy savings to process government incentives for energy-efficiency projects;
- conducted by Certification agency, provincial energy conservation supervision centers, and provincial financial inspection centers

Evaluation



Source: Tsinghua University

Evaluation



TABLE 7. Evaluation system for 1000 enterprises program

| | |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Energy conservation target (40) | 100% achieved: 40; 90% achieved: 35; 80% achieved: 30; 70% achieved 25; 60% achieved: 20; 50% achieved: 0 |
| Energy conservation measures (60) | <p>Energy conservation leading group: 3 Energy conservation management department: 2</p> <p>Decomposition of target to unit and person 3 Assessment of energy conservation target 3 Reward and punishment system 4</p> <p>Energy efficiency performance in 1000 enterprises: 10 for top 10% and 5 for top 50%. Energy conservation R&D fund 4 Annual energy conservation plan 4 Closure of backward equipment 7 Retirement of outdated equipment</p> <p>Implementation of local regulation 2 Implementation of energy consumption norm 4 Norm management for energy consuming equipments 2 Implementation of energy conservation design 2</p> <p>Energy audit and monitoring system 2 Energy statistics manger and account 3 Energy monitoring appliance 3 Energy conservation training 2</p> |

New Movement in 12th FYP



- **Low carbon development pilot programmes:** Low carbon provinces and cities pilots (5 provinces+8 cities); low carbon parks pilot (low carbon emerging industries); low carbon communities pilots (low carbon building and lifestyle); low carbon products (standards, labeling, verification, low carbon consumption);
- **GHGs statistical and accounting system:** Establishing comprehensive GHGs statistics system; involved in evaluation system of local government performance; GHG inventory at local level, key sectors and enterprises;
- **Emission trading schemes:** Establishing voluntary emission trading scheme; Conducting emission trading pilot programmes (two provinces+five cities); Enhancing supporting system for emission trading (MRV, registry, third party, regulation etc)

Experiences and Lessons



- ❖ Statistical indicator system and investigation system, including energy production, import/export, circulating, consumption, storage and utilization and comprehensive utilization ;
- ❖ Improved coverage, frequency, reporting requirements;
- ❖ Incentives: Assessing performance vs. assessing potential and opportunities;
- ❖ More supporting mechanism and Capacity building: standardized tools, guidelines, database, quantified auditors;
- ❖ International cooperation and information sharing;



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**Thank you for your
attention**

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