

# Trial Estimation of 95' CSEEA and 95' Green GDP of China

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## **1. Chinese Integrated System of Environment-Economy Accounting (CSEEA)**

In CSEEA matrix, there are 27 rows including Opening Stocks, Use of Economy Natural Assets, Supplies & Value Add, Use of Non-Economy Natural Assets, Green Value Add, Other Adjustments and 28 columns including Domestic Production, Final Consumption, Foreign Trade, Economy Assets, Non-Economy Assets and Total.

Due to data limitation, only the following aspects are considered. (a) Natural assets: there are eight kinds of natural assets i.e. forest, grass, cultivated land, coal, oil, natural gas, air and water. (b) Depletion of resources: the costs of extraction of the most important subsoil resources, such as coal, oil, and natural gas. (c) Degradation of natural assets caused by residuals: qualitative deterioration of natural assets, such as environmental pollution caused by economic activities is evaluated in monetary terms. The imputed environmental costs for the following items is considered by source and type of natural assets: Air pollution (SO<sub>2</sub>, Dusty) and Water Pollution: Sewage (BOD, COD). (d) Destruction of ecosystem: loss of ecosystem function of several kinds of resources are considered by type of natural resource (i.e. forest, grass, cultivated land).

## **2. Summary of Trial Estimate**

### **2.1 Imputed Environmental Costs**

(a) Total imputed environmental costs (including the depletion of natural resources, the destruction of ecosystem and the degradation of natural assets) were about RMB¥ 219.94 billion, or 3.7% of GDP (or 4.24% of NDP) in 1995. (b) A breakdown by type of natural assets shows that the costs were ¥120.23 billion (54.66%) from use of economy natural assets, in which 71.73% from use of produced natural assets and 19.66% from use of non-produced natural assets, ¥99.71 billion (45.34%) from use of non-economy natural assets, in which 36.85% from air pollution and 63.15% from water pollution.

### **2.2 Depletion of Natural Resources**

Depletion of natural resources was ¥46.67 billion in which depletion of subsoil resources were ¥20.73 billion (35.76%), in which ¥1.96E-177 billion (0.0001%) from use of coal, ¥20.73 billion (99.98%) from use of natural oil and ¥0.004 billion (0.02%) from use of natural gas.

### **2.3 Degradation of Natural Assets Caused by Residuals**

(a) Degradation of natural assets was ¥152.83 billion, in which degradation of natural assets caused by destruction of ecosystem was ¥63.2 billion (41.36%) (Only forests, grass and cultivated land be considered here), degradation of natural assets caused by residuals was ¥89.63 billion (58.64%) (Only air pollution (SO<sub>2</sub>, dusty) and water pollution: sewage (BOD, COD) are considered). (b) In

degradation of natural assets caused by destruction of ecosystem, there are ¥59.1 billion (93.35%) comes from use of forest, ¥1.21 billion (1.91%) comes from use of grass and ¥2.9 billion (4.59%) from use of cultivated land. In degradation of natural assets caused by residuals, there are ¥31.25 billion (34.86%) come from degradation of air quality caused by SO<sub>2</sub>, dusty emission, ¥58.38 billion (65.14%) comes from degradation of water quality caused by sewage (BOD, COD) emission.

## **2.4 Defensive Expenditures**

(a) Defensive expenditures on maintaining of natural assets were ¥20.44 billion, in which 50.66% (¥10.35 billion) were used on maintaining of economy natural assets, 45.54% (¥10.08 billion) were used on maintaining of non-economy natural assets. (b) In the defensive expenditures used on the maintain of economy natural assets, 86.4% are exploitation fee of sub-soil resources (coal, oil and natural gas), 13.6% are abatement fee on solid waste. In the defensive expenditures used on maintaining of non-economy natural assets, 45.54% are used as abatement fee of sewage (¥4.59 billion), 54.46% are used as abatement fee of SO<sub>2</sub> and dusty (¥5.49 billion).

## **2.5 EDP and Green GDP**

In 1995, China's EDP and Green GDP are ¥4965.3 billion and ¥5724.87 billion respectively.

## **2.6 Transfers from Non-economy Natural Assets to Economy Natural Assets**

Transfers from non-economy natural assets to economy natural assets (only subsoil resources coal, oil and natural gas be considered here) are ¥1575.2 billion, in which 22.66% (¥357.34 billion), 64.34% (¥1013.43 billion) and 12.98% (¥204.44 billion) are coal, oil and natural gas respectively.

## **2.7 Opening/Closed Stock of Assets**

(a) At the beginning of 1995, tangible assets of China were ¥820622.89 billion, in which man-made assets was ¥11183.24 billion (1.36% of total tangible assets), natural assets was ¥809439.65 billion (98.64% of total tangible assets). (b) At the end of 1995, tangible assets of China were ¥853920.54 billion, in which man-made assets was ¥12380.52 billion, natural assets was ¥841540.03 billion, increased 4.06%, 10.71%, 3.97% respectively compared with the beginning of 1995's. (c) For subsoil assets (coal, oil, natural gas), it's increment was ¥8791.55 billion in 1995, in which ¥7216.35 billion come from reevaluation (82.08%), ¥1575.2 billion come from transfers from non-economy natural assets to economy natural assets (new increment proven reserve) (17.92%). The increment of coal, oil and natural resource were ¥7050.34 billion, ¥1276.35 billion and ¥464.87 billion respectively, in which 5.07%, 79.4% and 43.98% come from transfers from non-economy natural assets to economy natural assets. (d) For grass (rangeland) and cultivated land, the decrement are ¥1.95 billion and ¥38.22 billion, in which ¥1.21 billion (62.14%) and ¥4.31 billion (11.27%) are come from economy activities respectively, ¥0.74 billion (37.86%) and ¥33.91 billion (88.73%) are come from economy activities respectively.

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## **RESUME**

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