The London group conference in Canberra, November 15-19, 1999

Introduction & Round Table: Country report, the Netherlands

1. **The regular NAMEA**

Introduction

Last year the National accounts were revised according to ESA 95. The national accounts revision has also been used to introduce new sources in the national accounts. With respect to NAMEA two important new sources are:

1. integration of (physical) energy accounts and supply and use tables

2. the use of new surveys on "Recycling" (NACE-code 37) and on "Sewage and refuse disposal, sanitation and similar activities" (NACE-code 90).

At the same time, this year the Dutch emission register has been revised as well. As a consequence the most recent NAMEA estimates (1995 - 1998) provide new data on air emissions. Due to the availability of energy accounts that are fully consistent with the national accounts, these new estimates could be determined in correspondence to the resident criterion.

However, all these improvements have caused a discontinuity in the time series of the NAMEA. For analytical purposes improvisational time series over the period 1986-1998 have been constructed. The data have been used to analyse the relation between economy and the environment. In particular a structural decomposition analysis (SDA) has been performed. The first results were reported to Eurostat. Both projects (SDA and the integration of energy) are somewhat further explained below.

Structural decomposition analysis

One major goal of this project was the development of analytical tools which can support the presentation of NAMEA information in the annual CBS publication "De Nederlandse Economie" (the Dutch Economy) and in "De Milieubalans" (the annual state of the environment report) of RIVM (Government Institute for Public health and the Environment). An important policy issue in this respect is the disconnection of environmental pressure and economic growth. This is regarded to be an important condition for a sustainable Dutch economy.

The availability of NAMEA time series enables tracking down different causes of annual changes in environmental pressures. In this respect, input-output analysis provides a systematic approach. In a simple input-output model, the annual change in pollution can be described as a linear additive function

of economic growth in terms of volume increase in final demand, efficiency gains or losses and changes in the economic structure. Th results of such a structural decomposition analysis show for example that maintenance of the production structure of 1987 would have resulted in an increase of 35% of the greenhouse gases in 1998. Due to changes in the production structure (more services less commodities) this increase is 14% below this level. This effect can be regarded as environmental efficiency.

Integration of energy statistics in the NA

The integration of energy statistics in the National Accounts offers numerous advantages. Besides improving the quality of national accounts estimates, one big advantage is that physical quantities of supply and use are now known which are fully consistent with the values posted in the NA. An inherently consistent system is thereby created in which energy statistics, the NA and related statistics such as the Pollutant Emission Register (PER) are all featured. In the past, these sets of statistics were, in part, produced independently of one another.

With this integrated system, a more direct relationship can be established between major economic variables and environmental pollution. Derived input-output tables further enable the analysis of energy flows within the Dutch economy. In practice, the energy statistics have been incorporated in the supply and use tables. The most important applications of the energy accounts attached to the national accounts and NAMEA are:

- providing a consistent estimate of the total amount of pollution to be attached to the total national economy including international transport
- improving the allocation of emissions from mobile sources to economic activities (industries, households)
- providing a further breakdown of the services industries in the NAMEA which may have a limited contribution to environmental problems but make up for more then 60% of total value added and employment
- increasing the reliability of national accounts, including the estimation of volume changes

In particular the NAMEA air-emission data on international transport improved considerably. Up till now the NAMEA air-emissions covered the emission reported in the PER. However, in the PER only the total emissions within the Dutch border are registered. These emissions include emissions by residents and partly by non-residents (due to international transport). Emissions of residents outside the Dutch border are not included in the PER. Revising the data according to the resident principle shows that 13% of the CO2 emissions generated by the Dutch economy are produced outside the Dutch borders. The main part of this emission is caused by aviation and shipping.

2. Other ongoing projects:

a) Theme indicator for the dispersion of hazardous substances

The methodology developed for the theme indicator for dispersion was established in 1997 (Gorree 1997). The study resulted in three theme indicators to cover all potential threats resulting from the dispersion of toxic substances to aquatic and terrestrial ecosystems as well as for human beings. This year a project has started to compose time series and to further incorporate the indicator into the NAMEA framework. There is still some going on discussion with the government institute of public health and the environment (RIVM) concerning the construction methodology. An agreement is expected in the coming months.

b) Water accounting

In corporation with the University of Groningen a project has recently started to investigate the direct and indirect use of water and water pollution in the Netherlands with the help of the NAMWA. The National accounting matrix including water accounts is an extension of the regular NAMEA tables. In particular the usefulness of input-output analyses in this respect is further explored. In the project three types of water are being distinguished: fresh, ground and surface water. Furthermore the results will be specified on a detailed level of industry branches and some effort will be made to relate the use of water to products. Special attention is given to policy relevancy.

c) Sustainable national income

The concept of Sustainable National Income (SNI) was designed as an indicator for economic success complementary to standard national income, based on a more proper valuation of the possibilities to use the environment. The calculation method has been successively improved in recent years and has been applied to a series of environmental themes, partly in co-operation with the Institute for Environmental Studies in Amsterdam. The main improvements are related to the use of models, both in the theoretical foundations of the method as in its implementation.

In the calculation of a SNI costs are estimated required to reach a sustainable use of the environment. For that purpose the standards are imposed to a general equilibrium model in which the use of the environment is linked to production and consumption. In this model the NAMEA is used as the underlying database. In recently performed calculations, seven environmental problems were taken into account: fossil fuel depletion, climate change, ozone layer depletion, acidification, eutrophication, summer smog formation, water and sediment pollution with zinc, ground water depression (desiccation), use of soil surface area and local soil pollution. Preliminary results (Verbruggen, 1999) show that the SNI with constant relative world market prices are about 45-47% lower than the national income in the base situation. Next year, this project will be continued and further improved including the treatment of environmental taxes, and extension with respect to land use and other environmental themes.

Available reports

Haan, M de, 1999, Decomposing annual changes in pollution according to their causes: a namea time series analysis , Eurostat Interim report, concerning the project entitled: "the further development of the

namea and its application in the netherlands", module 2, ref.num.: 98/562/2040/b4/mm

Verduin, H, 1999, Integration of energy statistics in the national accounts, Eurostat Interim report, concerning the project entitled: "the further development of the namea and its application in the netherlands", module 1, ref.num.: 98/562/2040/b4/mm

Bart de Boer, Roefie Hueting and Mark de Haan, "From research to implementation: policy-driven methods for evaluating macro-economic environmental performance", workshop presentation, Eurostat, Luxembourg, September 28-29, 1998

Verbruggen, H., (ed.), 1999, Interim report on calculations of a sustainable national income according to Hueting's methodology, IVM/CBS.

Bart de Boer, Berekening van het duurzaam nationaal inkomen, het Economenblad, jaargang 21, nummer 2, 7 april 1999