

## USING THE RA TO CHECK INVENTORY RESULTS

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The IPCC Guidelines require that inventories prepared using methods other than the RA be compared with the RA and that any significant differences be explained. For this check to be of value the nature of the RA and the range of emissions covered by it should be appreciated. The basis of the RA is the identification and accounting of carbon flows into the nation from extraction from national reserves, net imports (imports - exports) and net stock draw. The method described in the *Guidelines* adjusts the total for any carbon not likely to be released in the short term and (for policy reasons) any carbon delivered in fuels for international transport. It is this principle which constitutes the RA and the estimate of emissions calculated from it should be made using the calorific values, emission factors, storage factors and oxidation factors which are used for the preferred national method. The default factors provided in the *Guidelines* are not part of the RA but are offered for use where national factors are not available.

The paragraphs which follow set out the types of emission which are naturally included within the high-level "top-down" RA. In some cases, (explicitly indicated below), most of the emissions arise from the fossil fuel carbon recorded in energy statistics but some are attributable to carbon (of fossil fuel origin) imported in organic chemicals or intermediate products containing organic compounds. Although this contribution to the national carbon flow, for most countries, is very small those with a large carbon flow from foreign trade in organic chemicals and derived products in primary forms may wish to estimate the effects of the flow when checking their CO<sub>2</sub> inventory against the RA. Similar trade corrections may also be needed if the supply of carbon anodes (principally to the aluminium industry) relies upon their import.

The types of carbon emissions covered by the RA may be grouped as follows:

- All emissions from combustion of fossil fuels including the combustion/oxidation occurring in the industrial processes identified in Chapter 2, Vol. 3 of the *Guidelines*, namely:
  - Production of ammonia
  - Silicon carbide
  - Calcium carbide
  - Soda ash, Solvay process (from calcining)
  - Iron and steel, ferroalloys and other metals (however, see remark above on dependence of supply of carbon anodes on imports)
- All fugitive emissions from the transport and use of fossil fuels and derived products. The transport and use occurs after point at which their production (or import) is measured. Emissions prior to these points are not included in the RA.
- Emissions in the transport and use of gas and oil products as fuels.
- Production and use of halocarbons\*
- Organic chemical and primary plastics manufacture\*
- Asphalt manufacture and use.

- Adipic acid.
- Short-life wastes comprising used oils, used solvents and plastics.
  - \*There may be some emissions as the result of combustion/oxidation of feedstock used for these production activities.

Reconciliation of the results of an RA inventory with those obtained from other methods will therefore need to take these additional sources into account either by subtracting their estimated contributions from the RA total or by adding their contributions to the estimate of emissions from fuel combustion obtained by alter