**SUPPORTING INFORMATION**

*Terms and definitions*

*Resource extraction* refers to Domestic Extractions (DE) of materials – biomass, fossil fuels, metal ores, and non-metallic minerals – within a nation or group of nations, and measured in tonnes.

*Resource use* refersto Domestic Material Consumption (DMC), defined as Domestic Extractions less exports of primary materials plus imports of primary materials, measured in tonnes.

*Resource efficiency* refers to a reduction in natural resource extractions, and is measured by the difference between *Resource Efficiency* (E3) and the *Existing Trends* (H3) scenarios, and by the difference between the *Ambitious Climate* (H2) and *Efficiency Plus* (E2) scenarios (see Table 1). Resource efficiency can also refer to reduced resource intensity (natural resource use in tonnes per dollar of economic activity). In principle, resource efficiency can result in net economic benefits – which we describe as ‘economically attractive resource efficiency’ – or net economic costs (such as where the cost of achieving reductions in resource use is larger than the value of the resources saved).

*Resource productivity* refers to the value of economic activity (GDP in real dollars) per unit of resource use (DMC), measured in $ per kg.

*Basic materials* refers to natural resources that have been simply processed (such as making iron and steel from metal ores and energy inputs), corresponding to outputs from simple processing and manufacturing sectors.

*Economic activity* refers to the value of market activity measured in real 2015 international dollars (equivalent to USD).

*Economic growth* refers to an increase in the value of real economic activity.

*Energy use* refers to Total Primary Energy Supply (TPES).

*Greenhouse gas emissions* include all six climate forcing gases, and are reported in CO2e.

*Physical Trade Balance* refers toimports of primary materials minus exports of primary materials for a nation or group of nations, measured in tonnes.

*Primary materials* refers to unprocessed natural resources, corresponding to the output from the mining, minerals, energy commodities, agriculture, forestry and fisheries sectors.

*GTEM sectors and regions*

Table SI-1. Sectors

|  |  |
| --- | --- |
| **Sector types** | **Sectors** |
| Mining and energy commodities | Coal |
| Oil |
| Gas extraction |
| Other mining (OMN) |
| Agriculture | Crops (including biofuels) |
|  | Livestock (cattle, sheep, dairy) |
|  | Other animals and fishing |
|  | Forestry |
| Heavy industry | Non-metallic minerals (NMM) |
|  | Petroleum and coke products |
|  | Electricity |
|  | Iron and steel |
|  | Nonferrous metals |
|  | Chemicals, rubber, plastics |
| Manufacturing | Manufacturing |
|  | Processed food |
| Transport | Land and Other Transport |
|  | Water transport |
|  | Air transport |
| Services | Construction |
|  | Services |

Table SI-2. Countries included

|  |  |
| --- | --- |
| **Region** | **Countries included** |
| **Asia-Pacific** | |
| AUS | Australia |
| CHN | China |
| EAO | Cambodia, Hong Kong, Lao PDR, Malaysia, Mongolia, Philippines, Singapore, Taiwan, Thailand, Vietnam Rest of East Asia, Rest of Oceania, Rest of Southeast Asia |
| IND | India |
| IDN | Indonesia |
| JPN | Japan |
| KOR | Korea |
| NZL | New Zealand |
| SAS | Bangladesh, Nepal, Pakistan, Sri Lanka, Rest of South Asia |
| **Asia-Pacific** | |
| CAN | Canada |
| MEX | Mexico |
| USA | USA |
| **South and Central America** | |
| BRA | Brazil |
| CAM | Belize, Bermuda, Caribbean, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panama |
| NSA | Bolivia, Colombia, Ecuador, Paraguay, Peru, Venezuela, Rest of South America |
| SSA | Argentina, Chile, Uruguay |
| **Europe** | |
| CEU | Bulgaria, Croatia, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia, Slovenia, Turkey |
| FRA | France |
| DEU | Germany |
| ITA | Italy |
| GBR | United Kingdom |
| WEU | Austria, Belgium, Denmark, Finland, Greece, Iceland, Ireland, Liechtenstein, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland |
| **West Asia** | |
| EEW | Albania, Armenia, Azerbaijan, Bahrain, Belarus, Georgia, Iran, Iraq, Israel, Jordan, Kazakhstan, Kyrgyzstan, Lebanon, Moldova, Oman, Palestinian Qatar, Syria, Saudi Arabia, UAE, Ukraine, Yemen, Rest of FSU, Rest of W. Asia |
| RUS | Russian Federation |
| **Africa** | |
| CAF | Cameroon, Kenya, Nigeria, Tanzania, Uganda, Rest of Eastern Africa, Other Central Africa |
| NWA | Algeria, Cote D'Ivoire, Egypt, Ethiopia, Ghana, Kuwait, Libya, Morocco, Tunisia, Rest of North Africa, Rest of Western Africa |
| OAF | Botswana, Lesotho/Swaziland, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Senegal, Zambia, Zimbabwe |
| SAF | South Africa |

*Global results and group of 7 economies*

Three scenarios are shown for the global and the group of 7 (G7) economies natural resource use, GHG emissions and economic activity.

Figure SI-3: Global and G7 projected resource use, economic activity, and greenhouse gas emissions under existing trends, resource efficiency policies, and resource efficiency plus a 2°C climate pathway, 2010-2050.

