APPENDIX A: TAX EXPENDITURE BENCHMARKS AND METHODOLOGIES

A.1 BENCHMARKS

A.1.1 WHAT IS A TAX EXPENDITURE BENCHMARK?

In order to identify and measure tax expenditures a benchmark must be specified. Tax expenditures are defined and measured as deviations from this benchmark.

The framework for defining the benchmarks used in this statement is based on two principles.

- The benchmark should represent the standard taxation treatment that applies to similar taxpayers or types of activity. Consequently, a benchmark taxation treatment should neither favour nor disadvantage similar taxpayers or activities.

- The benchmark may incorporate structural elements of the tax system where there are difficulties adopting the standard treatment as the benchmark. Such elements could include integral design features; for example, the progressive income tax rate scale for individual taxpayers.

Reconciling these two criteria often involves an element of judgment. In particular, there may be different views on which structural elements to include in the benchmark. Consequently, benchmarks vary over time and across countries and can be arbitrary.

A.1.2 BENCHMARKS USED IN THE TAX EXPENDITURES STATEMENT

To provide a clear structure for reporting tax expenditures, the benchmark is split into three major components reflecting Australia's taxation arrangements.

- The income tax benchmark describes the standard taxation arrangements applying to personal and business income, superannuation, fringe benefits and capital gains.

- The consumption tax benchmark describes the standard taxation arrangements that apply either directly or indirectly to consumption and commodities; namely the supply of goods and services to consumers, tobacco, fuel, types of alcoholic beverages, motor vehicles, natural resources and customs duty.

- The externalities taxation benchmark covers taxation arrangements imposed to recover the external costs of particular activities. This benchmark reports tax expenditures arising from concessions under the Carbon Pollution Reduction Scheme (CPRS).

The remainder of this appendix provides details of the key elements of the income and consumption tax benchmarks. The discussion focuses on the following elements of each benchmark:

- the tax base — the activities or transactions subject to the tax;
- the tax rate — the rate of tax that applies to the base;
- the tax unit — the entity liable to pay the tax; and
- the tax period — the period in which the activities or transactions are undertaken.

A.2 EXPENDITURES RELATED TO TAXES ON INCOME

Australian Government taxes are primarily imposed on income rather than commodities. The following sections outline the general features of the benchmark for income tax (both personal and business), superannuation, fringe benefits and capital gains. These different taxes are discussed separately because they have distinct tax regimes that affect how tax expenditures are measured.

A.2.1 INCOME TAX BENCHMARK

GENERAL FEATURES

Tax base

The tax base for the income tax benchmark is based on the Schanz–Haig-Simons definition of income. An entity's income is defined as the increase in the entity's economic wealth (stock of assets) between two points in time, plus the entity's consumption in that period. Consumption includes all expenditures, except those incurred in earning or producing income.

The Schanz-Haig-Simons definition of income conforms to the principal criterion of benchmark design: all income is included in the base regardless of the income earning activity. The income tax benchmark is based on the Schanz-Haig-Simons framework, but modified to accommodate structural elements.

Under the income tax benchmark, income includes:

- wages and salaries;
- allowances;
- business receipts;
- capital gains;
- interest, royalties and dividends;
- partnership income;
- government cash transfers; and
- distributions from trusts.

Where an expense is incurred for both income producing and private purposes, deductions are limited to the portion of expenses relating to income production.

A number of tax arrangements depart from the Schanz-Haig-Simons definition of income but are structural features of the tax system and therefore included in the benchmark. These elements are outlined below.

- Assessment applies to nominal rather than real income. Expenses incurred in earning income are deductible at historical cost.
- Some taxpayers (typically individuals) recognise income when it is actually received (cash basis) and other taxpayers (typically businesses) recognise income when there is a right to receive benefits or, in the case of financial arrangements, in the period to which it relates (accrual basis).
- Deductions for expenses related to economic benefits that extend beyond the income year in which the expenditure is incurred are spread over the period of the benefits. This treatment also applies to expenditure in advance (prepayments) for services.
- Imputed rent from owner occupied housing is not included in income. Expenditure incurred in earning imputed rent is not deductible.
- The mutuality principle excludes income from dealings with oneself or members of mutual associations and societies. For instance, goods produced by taxpayers for their own consumption, or services performed by taxpayers for their own benefit are generally not included in the tax base.

- Certain gains, such as gains received by way of compensation for damage or any wrong or injury suffered by a taxpayer (where they are not solely responsible for the loss of income), or gains or winnings from gambling (where taxpayers are not considered to be carrying on a business of gambling), are not included in income.

- Investment income derived from income bonds, funeral policies and scholarship plans of friendly societies that were issued before 1 January 2003 is not included in income.

  – Income relating to policies issued after 1 January 2003 is included in a friendly society's assessable income.

  – To prevent double taxation of income from bonds, funeral policies and scholarship plans, friendly societies can deduct the investment component of the benefits paid out to policyholders (other than the benefits from scholarship plans that are returned to investors rather than paid to the nominated students).

- Losses are deductible against assessable income for a later income year. Losses generally cannot be transferred to other taxpayers, and some losses may only be claimed against certain types of future income.

  – Non-commercial loss rules prevent individuals carrying on unprofitable business activities from claiming deductions for losses arising from such activities against their other income. Losses from non-commercial activities are treated as personal consumption under the benchmark and denial of such losses is therefore part of the benchmark treatment. The Commissioner of Taxation's objective determination of whether a business is commercial in nature, despite making a loss in a given income year, is the basis of the non-commercial losses benchmark.

- Depreciation deductions are made over the effective life of the asset.

- From 1 July 2005, under a provision of last resort, business capital expenditures not elsewhere recognised within the taxation laws (blackhole expenditures) are deductible over five years.

Arrangements to prevent double taxation

Arrangements to reduce or eliminate double taxation are integral features of the tax system and are included in the benchmark. For example, the imputation system, which eliminates the double taxation of company profits distributed to resident shareholders, is included in the income tax benchmark.

International tax arrangements

Australian residents are taxed on their worldwide income under the income tax benchmark. Consequently, residents are taxed on their Australian source and foreign source income. The various international tax arrangements that ensure foreign source income is subject to the appropriate level of Australian tax are included as structural elements of the income tax benchmark.

Features of the international tax arrangements that are incorporated into the benchmark are:

- Resident taxpayers are allowed to claim foreign income tax offsets up to the amount of Australian tax payable on their foreign income. These arrangements ensure foreign source income is not excessively taxed.

- The controlled foreign company, foreign investment fund and transferor trust rules ensure Australian residents cannot escape or defer taxation of tainted income by interposing a foreign resident legal entity.

  – Tainted income is generally income derived by investments which are mobile and whose location probably was influenced primarily by tax considerations, or certain related party transactions. It includes passive income such as interest, royalties and dividends and highly mobile forms of active income.

- Transfer pricing and thin capitalisation rules and interest, dividend and royalty withholding taxes aim to tax appropriately Australian sourced income and are included in the benchmark.

- Foreign residents are taxed on their Australian source income only. As part of this benchmark, where foreign income (or foreign capital gains) earned by an Australian entity is subsequently distributed to a foreign resident, the distribution attracts no Australian tax.

  – Persons in Australia on temporary visas are taxed essentially the same as foreign residents.

- Taxation treaties operate to allocate taxing rights over income between the source country of income and the taxpayer's country of residence. For distributions of Australian source income to foreign residents, the basic rates of withholding tax prescribed in these treaties in respect of specified classes of income, such as interest, dividend and royalty income, are included in the benchmark as the applicable tax rates.

  – Under this approach, the benchmark rate of interest, dividend and royalty withholding rates will vary depending on whether the country in question has a tax treaty with Australia.

- If a tax treaty exists, the benchmark rates of withholding tax for a class of income will be the 'basic rate', where the basic rate is the highest rate specified in the treaty for each withholding tax.

- Exemptions or reductions relative to the basic rates prescribed in a particular tax treaty will give rise to tax expenditures.

- If a tax treaty does not apply, any exemptions or reductions from the standard domestic statutory rates will give rise to tax expenditures.

Tax rates and income brackets

The tax rate under the income tax benchmark is the legislated tax rate that applies to the relevant entity in each financial year.

The personal income tax system includes the tax free threshold, the progressive personal income tax rate scale, low income tax offset and the Medicare levy. The progressive income tax rate scale is an integral and longstanding feature of the tax system.

Foreign residents are not entitled to a tax free threshold on Australian sourced income, as they typically receive a tax free threshold in their home jurisdiction. As a result, the foreign resident income tax scale is included in the benchmark.

Tax unit

Individuals and companies are subject to tax under the income tax benchmark. Sole traders, partnerships and trusts are not separate tax units. Income earned by these entities is taxable in the hands of the recipient.

For the personal income tax system in Australia, the benchmark unit is the individual.

For companies, the benchmark tax unit is the company. From 1 July 2002, the benchmark tax unit for companies also includes the head entity of a consolidated group or a multiple entry consolidated group.

Taxation period

The taxation period adopted under the income tax benchmark is the financial year (1 July to 30 June). Consequently, measures that defer taxable income to another financial year such as income averaging for primary producers (B42) or the farm management deposit scheme (B41) are reported as tax expenditures. Tax deferral arrangements will generally give rise to tax expenditures in the year income is earned, offset by a negative tax expenditure when the income is taxed.

Departing from this framework, the carry forward loss provisions are an integral feature of the tax system and are included in the benchmark. These provisions allow an entity with a loss to carry the loss forward and deduct it in the future.

The benchmark also includes arrangements for entities whose accounting period differs from the standard financial year (for example, companies with a substituted accounting period).

A.2.2 SUPERANNUATION BENCHMARK

Income contributed to superannuation funds (contributions) and earnings of superannuation funds are classified as income under the Schanz-Haig-Simons definition. While such income could be considered under the personal income and capital gains tax benchmarks, the unique (and concessional) taxation treatment of superannuation warrants further detail on how the general income tax benchmark is applied to superannuation.

Superannuation in Australia may be taxed at three stages:

- when contributions are made to a superannuation fund;
- when investments in superannuation funds earn income; and
- when superannuation benefits are paid out.

The income tax benchmark treatment of superannuation is that contributions are taxed like any other income in the hands of the fund member, earnings are taxed like any other investments in the hands of the investor and benefits from superannuation are untaxed. Any costs associated with superannuation investments are deductible under the benchmark.

A.2.3 FRINGE BENEFITS TAX BENCHMARK

Fringe benefits are classified as individual employee income under the Schanz-Haig-Simons definition. This section defines the benchmark for the fringe benefits tax system drawing on the general features of the income tax benchmark outlined above.

The tax base for the fringe benefits tax benchmark is the value of fringe benefits provided to an employee or an associate of an employee in respect of the employment of the employee. Fringe benefits include property rights, privileges or services. Payments of salary or wages, eligible termination payments, contributions to complying superannuation funds and certain benefits arising from employee share schemes are excluded. The benchmark value of a fringe benefit to an employee is taken

to be its market value less any contribution the employee pays. Generally, employers may claim the cost of providing fringe benefits and the amount of fringe benefits tax paid as income tax deductions.

The tax rate that applies under the fringe benefits tax benchmark is the employee's personal marginal income tax rate. In all cases, fringe benefits tax is calculated on the grossed up taxable value (that is, the pre tax equivalent value) of the fringe benefit. In some cases, discount valuation methods are available to calculate the taxable value of a fringe benefit. Such methods are reported as tax expenditures.

The employer providing the fringe benefit (rather than the employee receiving the benefit) is the tax unit under the benchmark. This is consistent with the legal incidence of fringe benefits tax, which is payable by employers. The benchmark tax period is the fringe benefits tax year (1 April to 31 March).

A.2.4 CAPITAL GAINS TAX BENCHMARK

Capital gains are classified as income under the Schanz-Haig-Simons definition. This section defines the benchmark for the capital gains tax system drawing on the general features of the income tax benchmark outlined above.

The tax base for the capital gains tax benchmark is realised nominal gains and losses. The benchmark only includes gains or losses arising from the realisation of property where the realisation is not an aspect of the carrying on of a business. This excludes gains or losses that form part of a business's normal trading activities from the capital gains tax benchmark, for instance, gains or losses on trading stock of a business and gains or losses realised in the business of trading particular assets. These gains or losses are dealt with under the general features of the income tax benchmark.

Capital gains are taxable upon realisation. While the taxation of gains on an accrual basis aligns more closely with the broad Schanz-Haig-Simons definition, taxation on a realisation basis is consistent with longstanding practice and recognises the administrative problems associated with an accrual system.

Consistent with the general features of the income tax benchmark, the benchmark for Australian residents is their worldwide capital gains. In the case of foreign residents, Australia has limited its domestic and treaty capital gains tax rules to the direct or indirect disposal of interests in Australian land (and similar interests such as mining rights) and branch office assets from 12 December 2006. In respect of both the foreign capital gains of residents and the Australian capital gains of foreign residents, the allocation of taxing rights in the domestic laws and tax treaties is part of the benchmark.

The tax rate and tax unit adopted under the capital gains tax benchmark are the same as that which apply under the general benchmark outlined above.

A.3 TAXES ON CONSUMPTION

The Australian Government imposes taxes on consumption of particular goods, services or activities and on particular commodities. The tax base for the consumption tax benchmark is made up of three components.

- The commodity tax benchmark relates to the consumption of fuel (or energy), tobacco, types of alcoholic beverages and motor vehicles, and customs duty on the importation of goods into Australia.
- The natural resource tax benchmark relates to the extraction and production of Australia's natural resources.
- The goods and services tax benchmark relates to the final consumption of goods and services by households.

A.3.1 COMMODITY TAX BENCHMARK

Commodity taxes are either ad valorem or volumetric. Ad valorem taxes are charged as a fixed proportion of the value of the commodity sold. Volumetric taxes are charged as a fixed proportion of the quantity of the commodity sold. Consequently, the tax base for commodity taxes is determined either by the value or quantity of the commodity sold.

The Australian Government imposes volumetric taxes on the consumption of tobacco, fuel, beer, spirits and certain imports, and imposes ad valorem taxes on the consumption of wine and luxury cars. These taxes are imposed at either the retail, manufacture or importation stage. In each case, the tax unit is the entity that has the legal obligation to pay the tax.

The following sections outline how the general features of the consumption tax benchmark apply to the consumption of tobacco, fuel, alcohol and motor vehicles.

Fuel (or energy)

The tax base for the consumption of all fuel (or energy) is split into two activities:

- fuels consumed in an internal combustion engine (that is, primarily for transport use); and
- fuels consumed for a purpose other than in an internal combustion engine (for example, a product that can be used as a fuel in an internal combustion engine but is used in a solvent application or for heating).

The taxation of these activities reflects longstanding and integral features of the tax system whereby excise rates are dependent on whether the fuel is used in an internal combustion engine.

The benchmark excise rates for fuels consumed in an internal combustion engine are the full energy content based rates for the following bands:

- high energy content fuels, with energy content of more than 30 megajoules per litre and excise rate of 38.143 cents per litre. These include fuels such as petrol, diesel, biodiesel and aviation fuel;

- medium energy content fuels, with energy content between 20 and 30 megajoules per litre and excise rate of 25 cents per litre. These include fuels such as liquefied petroleum gas (LPG), liquefied natural gas (LNG) and ethanol; and

- low energy content fuels, with energy content of less than 20 megajoules per litre and excise rate of 17 cents per litre. These include fuels such as methanol.

Fuels consumed other than in an internal combustion engine are exempt from excise under the benchmark.

Tobacco

The benchmark for the consumption of tobacco and tobacco products is the excise rate that applies to tobacco by weight of tobacco content.

Alcoholic beverages

The tax base for the consumption of alcoholic beverages is separated into three components based on the types of beverage:

- the consumption of lower alcohol content beverages (beverages with less than 10 per cent alcohol content) such as beer and ready to drink beverages;

- the consumption of higher alcohol content beverages (beverages with greater than 10 per cent alcohol content) such as brandy and other spirits; and

- the consumption of wine and alcoholic cider.

The taxation of these activities reflects a longstanding feature of the tax system whereby different tax rates apply to beer, spirits and wine:

- the benchmark excise rate for lower alcohol content beverages (for example, beer) is the volumetric excise rate that applies to full strength packaged beer (including the excise free threshold of the first 1.15 per cent of alcohol);

- the benchmark excise rate for higher alcohol content beverages (for example, spirits) is the volumetric excise rate on spirits other than brandy; and
- the benchmark rate for wine and alcoholic cider is the ad valorem wine equalisation tax rate.

Review of the taxation treatment of alcohol and the alcohol benchmark

The Australian National Audit Office noted in its report Preparation of the Tax Expenditures that:

> The adoption of a uniform benchmark for alcohol (beer, spirits and wine) would be consistent with the principle that a tax benchmark should represent a consistent treatment of similar activities or classes of taxpayers. It would also provide useful information by better reflecting the preferential taxation treatment (such as lower tax rates for low alcohol products) of some categories of alcoholic beverages compared to others.

The benchmark for alcoholic beverages outlined above has not changed from the previous edition of the TES.

Motor vehicles

Motor vehicle purchases are not taxed under the benchmark. Consequently, the luxury car tax (F18) is a negative tax expenditure.

Customs duty benchmark

Under the commodities benchmark it is the consumption of goods by consumers that is subject to tax and like goods should be subject to like rates of tax, regardless of their source. Under the benchmark, goods imported into Australia are subject to the same taxes on consumption as domestically produced goods. The benchmark treatment is that goods imported into Australia are free from customs duty, except to the extent that the customs duty imposed is equivalent to taxes imposed on domestically produced goods, such as excise equivalent customs duties.

Customs duty, other than excise equivalent duty, collected on certain goods imported into Australia is reported as a negative tax expenditure in this statement.

Estimates of the value of assistance provided to various industries, including tariff arrangements, appear in the Productivity Commission's Trade & Assistance Review.

A.3.2 NATURAL RESOURCES TAX BENCHMARK (PETROLEUM)

The Australian Government taxes profits from the extraction and production of unprocessed petroleum (for example, crude oil, LPG and condensate) and, in certain cases, natural gas. Different taxation arrangements for unprocessed petroleum products applied to projects that commenced before the 1986-87 financial year.

The benchmark for petroleum projects that commenced on or after 1 July 1986 is based on the petroleum resource rent tax (PRRT).

- The tax base includes receipts from offshore petroleum production (excluding projects located in the North West Shelf) less eligible project expenditures.
  - Under the PRRT any eligible expenditure which is not offset against revenue in the current year can be compounded and offset against future PRRT income. The rate at which expenditure is compounded and carried forward depends on the category of expenditure and when it was incurred. The benchmark uplift rate for exploration expenditure is the long term bond rate plus 15 percentage points and for general project expenditure is the long term bond rate plus 5 percentage points.
- The benchmark tax rate is 40 per cent of the project's profits.
- The benchmark tax unit is the petroleum project.

The benchmark for petroleum projects that commenced before 1 July 1986 (for example, the North West Shelf) is the crude oil excise and is comprised of the following features:

- the barrel equivalent production of crude oil from fields of greater than 30 million barrels as the tax base;
- the rate of tax that applies to crude oil as the tax rate, with applicable rates determined by the date that the field was discovered (that is, new, intermediate or other); and
- the entity that has the legal obligation to pay the tax as the tax unit.

A.3.3 GOODS AND SERVICES TAX BENCHMARK

The goods and services tax is an indirect, broad based consumption tax charged at the rate of 10 per cent. While the economic incidence of the GST is on the final supply provided to private consumers, the legal incidence is at each step in the supply chain, with registered entities (that is, businesses) including GST in the price of goods and services they sell. If the recipient of the supply is a registered entity, it will normally be

able to claim a credit for the amount of GST in the price. Therefore, the ultimate burden of the tax falls on the private consumer of the supply, as this person gets no credit for the GST component of the price.

The tax expenditures relating to GST are generally connected to supplies which are GST free or input taxed (the latter case includes the expenditure associated with allowing reduced credit acquisitions). If a supply is GST free, there is no GST payable on the supply and the supplier is entitled to claim credits for the GST payable on its related business inputs. If a supply is input taxed, no GST is payable on the supply, but the supplier generally cannot claim input tax credits on its related business inputs. In the case of reduced credit acquisitions, however, the supplier may be entitled to claim reduced input tax credits on its related business inputs.

Tax base

Under the GST benchmark, the tax base for the GST is the value of household final consumption expenditure plus the value of private dwelling investment.

There are structural elements of the GST system that are included in the benchmark. These elements are:

- GST applies to payments of Australian taxes, fees and charges, except those taxes, fees and charges that are exempted from GST by a determination made by the Treasurer. The exclusion from GST of those taxes, fees and charges included in the determination is included in the benchmark and is not treated as a tax expenditure.

- Exports and other supplies for consumption outside Australia are not consumed domestically and therefore are not subject to GST. The GST free treatment of exports is a fundamental element of the benchmark and is not treated as a tax expenditure.

- Goods and services supplied to oneself are not subject to GST. This treatment is included in the benchmark and is not treated as a tax expenditure.

- Input tax credits (ITCs) are provided to registered entities in respect of the GST they pay on business inputs. The provision of input tax credits to businesses is a fundamental design feature of the GST and is not treated as a tax expenditure.

- Imputed rent from owner occupied housing is not subject to GST. Owner occupied housing is effectively treated as input taxed. To ensure neutrality between owner occupiers and investors, the supply of residential accommodation and long-term commercial residential accommodation by landlords are also generally treated as an input taxed supply, meaning landlords are not entitled to claim ITCs and do not charge GST on the rent paid by tenants. The input taxation of supplies of residential accommodation is included as a structural element of the benchmark.

– The sale of new residential premises and the value of alterations, additions and improvements to residential premises are subject to GST. The subsequent resale of residential premises is an input taxed supply. These features of the GST system are included as structural elements of the benchmark.

Tax unit

While the economic incidence of the GST is on the final recipient of a supply (generally the final private consumer or an input taxed business), the tax unit responsible for remitting GST is the supplier of the goods or services concerned. The principal exception to this is in the case of 'reverse charging', where the recipient is liable to pay GST.

- Reverse charging occurs in certain situations where the importation of a supply from overseas can be taxable. This may apply, for example, where an overseas registered supplier itself imports goods into Australia and installs them in Australia. The overseas supplier and an Australian recipient may agree that the GST should be paid by the recipient, not the supplier.

Taxation period

The taxation period adopted under the goods and services tax benchmark is the financial year (1 July to 30 June).

A.4 MEASURES TO CORRECT EXTERNALITIES

The externalities benchmark appears for the first time in this edition of the Tax Expenditures Statement. This benchmark deals with taxes that are imposed for the purpose of ensuring that the private costs of certain activities align with the social costs of those activities.

The New Palgrave Dictionary of Economics defines externalities as:

> … indirect effects of consumption or production activity, that is, effects on agents other than the originator of such activity which do not work through the price system. In a private competitive economy, equilibria will not be in general Pareto optimal since they will reflect only private (direct) effects and not social (direct plus indirect) effects of economic activity.[1]

Accordingly, it is possible to improve overall welfare by taxing or otherwise charging for the consumption of particular commodities or particular activities that cause social

1 JJ Laffont, 'externalities' *The New Palgrave Dictionary of Economics,* Second Edition, Eds, Steven N Durlauf and Lawrence E Blume, Palgrave Macmillan, 2008.

harm or impose costs on others that are not fully reflected in the price of the commodity or activity. The purpose of the tax in this case is to correct the externality and bring consumption or production to a more socially optimal level.

Taxes and other revenue-generating measures used in this way have a significantly different aim to the general revenue collection purpose of taxes on income or consumption. However, like other tax measures, there may be concessions granted or additional obligations imposed in the measure intended to correct the externality. These may be done to exclude certain activities from coverage of the measure, on administrative and compliance cost grounds, or for other reasons. These concessions and additional obligations constitute tax expenditures.

A.4.1 THE EMISSIONS TRADING BENCHMARK AND THE CARBON POLLUTION REDUCTION SCHEME

Key features of a benchmark 'cap and trade' emissions trading scheme are:

- full coverage of the emissions covered by the *Kyoto Protocol to the United Nations Framework Convention on Climate Change*; and,

- a carbon price set by a well functioning, competitive market.

The Australian Government will implement an emissions trading scheme through the CPRS.

Tax expenditures relating to the CPRS are related to exclusions from coverage. Certain sectors of the economy are not covered by the CPRS and, consequently, entities in these sectors are not required to buy emissions units to cover their emissions. This can be either for policy purposes, or for practical reasons such as measurement difficulties.

In addition, some aspects of the CPRS are included in the benchmark as integral design features. These include:

- the transitional phase in which the emissions unit price is fixed at $10 for the first year; and

- ongoing emissions unit price caps beyond the first year.

Measures reported as expenses in the Budget that relate to the CPRS, such as allocation of free emissions units to assist emissions-intensive trade-exposed activities or the electricity sector, are not included as tax expenditures in the TES. Direct expenditures are accounted for separately in the Government's budget statements.

Note that estimates in the 2009 TES are provided based on the Australian Government's climate change policy and emissions projections as at the date of the

Mid-Year Economic and Fiscal Outlook 2009-10. They do not reflect the measures announced on 24 November 2009. New and modified tax expenditures arising from Government policy announced after this time will be included in the 2010 TES.

Tax rate

A 'cap and trade' emissions trading mechanism limits greenhouse gas emissions by setting a cap on emissions. This means that the right to emit greenhouse gases becomes scarce. This scarcity entails a price for the Australian emissions units which must be purchased by entities to cover their emissions.

The tax rate for the benchmark is equivalent to the price of Australian emissions units sold by the Australian Government in the market. Subsequent resales of Australian emissions units in secondary markets do not increase revenue and do not affect the equivalent tax rate. In the first year of operation of the CPRS, the price of units will be fixed at $10 per tonne of carbon dioxide equivalent (CO_2-e). This transitional pricing arrangement is treated as an integral feature of the benchmark.

Tax base

The tax base for the benchmark ETS is the total CO_2-e emissions produced by entities in Australia of the six greenhouse gases covered under the Kyoto Protocol: carbon dioxide, methane, nitrous oxide, sulphur hexafluoride, hydrofluorocarbons and perfluorocarbons.

Tax unit

While the economic incidence of the carbon price under emissions trading is generally on the final recipient of goods and services, the entity producing the emission of the greenhouse gas is the tax unit under the benchmark.

Some emissions under the benchmark are covered indirectly with liability falling on entities upstream from the point of final emission. Examples of these arrangements include electricity and liquid transport fuels. In these cases, the upstream entity is the tax unit.

Taxation period

The period for liability under the CPRS is the financial year (1 July to 30 June).

A.5 MODELLING TAX EXPENDITURES

This section provides an overview of the various modelling techniques used in the TES to estimate the value of tax expenditures.

The methods used to calculate the estimates of individual tax expenditures in this statement vary. The appropriate approach is determined by the nature of the tax benchmark, the particular tax concession examined and the availability of data. Data availability is a major factor influencing the reliability of the estimates, and in many cases estimates are not provided owing to data limitations.

The approaches used to estimate tax expenditures include aggregate modelling, distributional modelling and microsimulation. The approach most commonly used is distributional modelling, utilising data derived from microsimulation analysis.

A.5.1 AGGREGATE MODELLING

This approach involves using information on the aggregate volume of transactions to calculate the value of a particular tax concession. Aggregate modelling is an appropriate approach for measuring tax exemptions or concessions where the impact can be represented as a simple proportion of the total transactions concerned. Data sources suitable for aggregate modelling include national accounts data, trade and production statistics, and aggregates derived from administrative databases (such as taxation records).

Aggregate modelling is used to estimate tax expenditures for fuel excise. Tax expenditures for exemptions or reduced excise rates can be estimated from statistics on the aggregate volume of fuels produced.

A.5.2 DISTRIBUTIONAL MODELLING

This approach involves using discrete aggregate data to calculate the impact of tax concessions on particular segments of the economy. Distributional modelling is an appropriate approach for measuring concessions that vary according to the characteristics of the taxpayer. Data sources suitable for distributional modelling include survey data and data derived from administrative databases.

Distributional modelling is used to estimate tax expenditures for personal income tax concessions when the cost is related to a taxpayer's taxable income. For these concessions, data on income distribution and tax concessions by grade of taxable income can be used to estimate the cost of tax expenditures for those concessions.

A.5.3 MICROSIMULATION

This approach involves examining detailed datasets, such as taxpayer records, to determine the value of taxable transactions for each taxpayer. The value of the tax expenditure is the difference between the tax paid on those transactions under the concession and the tax that would have been collected under the benchmark.

Microsimulation modelling requires either a comprehensive database of all taxpayers or a detailed sample that can represent the population. The data must provide sufficient detail on the value of transactions affecting the calculation of tax liabilities to allow the required calculations.

Microsimulation modelling is used to estimate tax expenditures that closely target particular taxpayer groups (for instance, benefits subject to detailed eligibility tests) and concessions where the payment rate varies considerably according to taxpayer behaviour or circumstance.

Microsimulation modelling can also be used to derive key information, such as average effective tax rates, which can be used in other models that employ aggregate or distributional modelling. This is appropriate for situations where detailed datasets are not available for all items.

A.6 NOTES ON THE METHODLOGY USED TO ESTIMATE CERTAIN TAX EXPENDITURES

A.6.1 TREATMENT OF IMPUTATION

The value of some concessions reported in this statement is partially offset as a result of the imputation system. For example, concessions that reduce company tax may be clawed back through the subsequent taxation of dividends in the hands of shareholders. The estimates in this statement generally make no allowance for this clawback owing to the practical difficulties of doing so.

A.6.2 CAPITAL GAINS TAX ESTIMATES

Under the CGT benchmark, nominal capital gains are fully taxable upon realisation. The most significant tax expenditure against this benchmark is the 50 per cent discount for capital gains realised by individuals and trusts which affects most capital gains realised by these entities.

Individuals and trusts may also be eligible for other CGT concessions. The revenue forgone methodology that is generally used in this statement implies that estimates for these other CGT concessions should be calculated against the benchmark of full taxation of nominal capital gains.

To avoid double counting, the values of tax expenditures for other CGT concessions are reduced by the CGT discount component and the discount component of these other concessions is included in the tax expenditure for the CGT discount. This modification to the tax expenditure methodology provides more realistic estimates of

the value of the benefits taxpayers receive from capital gains concessions in aggregate, though it has the effect of understating the value of individual CGT tax expenditures other than the discount.

A.6.3 SUPERANNUATION

The estimates of the tax expenditures in the forward projections are not necessarily indicative of the cost of the superannuation concessions over the long term. In this context, the current tax concessions will help to reduce budgetary expenses in future years, particularly age pension payments, through encouraging private provision for retirement.

Further, the estimates cannot be interpreted as a time series of the ongoing revenue savings that could be obtained if the superannuation concessions were eliminated. This is because the increase in tax revenue arising from the elimination of the tax expenditure with respect to a particular year would cause the superannuation tax base to be smaller for the next year. For example, if contributions and fund earnings in 2004-05 had been taxed according to the superannuation benchmark, superannuation fund assets and fund earnings in 2005-06 would be lower than if the concessional tax treatment had applied in the previous year.

In addition, changes to the taxation of superannuation could be expected to have behavioural impacts, to the extent that people may alter their saving behaviour as a result. The estimated cost of the superannuation tax expenditures assumes no behavioural change involving either the portfolio composition of savings or the saving rate more generally.

Each year there are also variations arising from the revision of earnings and contributions estimates. In particular, taxable earnings of superannuation funds are not readily predictable. A major reason is that it lies within the discretion of a fund manager to decide when any accrued capital gains of a fund are realised. In addition, the earnings series is intrinsically volatile, reflecting fluctuations in interest rates, dividends and asset prices. Fund earnings have been 'smoothed out' for the forward projections.