

## **APPENDIX E: SENSITIVITY OF ESTIMATES TO MAJOR PROGRAM PARAMETERS**

This appendix examines the sensitivity of estimates to changes in two program parameters which are particularly volatile and uncertain. The two parameters considered are the Carbon Pricing Mechanism (CPM) and the number of Unauthorised Maritime Arrivals (UMAs).

### **Carbon Pricing Mechanism**

The PEFO estimates are based on commencement of an emissions trading scheme with a flexible price on 1 July 2014. With the start of this flexible price period, the Australian carbon price is expected to be set by the international price of carbon permits, because of the one-way link to the European Union Emissions Trading Scheme (EU ETS). In underlying cash terms, movements in the international carbon price affect receipts from the CPM and receipts from equivalent carbon price arrangements on fuel excise and synthetic greenhouse gases, as well as payments such as fuel tax credits.

The PEFO incorporates the carbon price methodology introduced in the 2013-14 Budget. This methodology uses a three-month average of futures market prices in the forecast years, including the start of emissions trading in 2014-15. Carbon prices in the projection years of 2015-16 and 2016-17 are estimated using a linear transition from market prices to the longer-term modelled price of \$38 in 2019-20 from the Strong Growth, Low Pollution Report. Based on this methodology, the carbon price is estimated to be \$6.20 in 2014-15, \$12.50 in 2015-16 and \$18.90 in 2016-17.

The longer-term modelled price is based on analysis contained in the Strong Growth, Low Pollution (SGLP) Report released in 2011. This modelling provides the latest available comprehensive assessment of the impact of global emissions reduction pledges for 2020 and the prices required to achieve the global environmental goals over time.

While the modelling provides a longer-term estimate for prices in 2020, the carbon price path to 2020 is subject to considerable uncertainty. This price path will continue to be significantly affected by changes in the economic outlook in Europe following a period of profound economic weakness, as well as uncertainty associated with the impacts of short-term and structural reform proposals in the EU ETS. In light of these uncertainties, the use of a linear interpolation to derive carbon prices in the projection years is a simple, transparent approach.

Futures contracts in the projection years are thinly traded, and market analyst views of the carbon price outlook to 2020 vary widely. Estimates will also vary in line with the Australian dollar carbon price and the emissions cap.

To illustrate the sensitivity of the estimates to changes in the Australian dollar carbon price, in the absence of policy change, a simple rule of thumb for a \$1 change in the

carbon price in any given year would be a change in the underlying cash balance of around \$160 million in 2014-15 or around \$220 million in either 2015-16 or 2016-17.

This simple rule of thumb will become less reliable for more significant deviations in the carbon price. Estimates of CPM receipts are net of freely-allocated carbon permits under the Jobs and Competitiveness Program and the Energy Security Fund. Accrual estimates of CPM revenue include the value of these free-allocated permits. The rule of thumb does not take into account the impact of changes in the carbon price on CPI-indexed payments and receipts across the Budget.

### Unauthorised Maritime Arrivals

Short-term estimates for Unauthorised Maritime Arrival (UMA) costs are heavily influenced by the occupancy level across the immigration processing network, including offshore processing in Papua New Guinea (PNG) and Nauru. Longer-term estimates are driven by UMA arrival rates, through increases in the number of people in the immigration processing network.

Forecasting arrival rates is inherently difficult and imprecise. Arrival forecasts are built on advice from the National Security community, actual arrival rate trends and judgements about the impact of policy change. A summary of the current methodology for estimating UMA costs over the forward estimates is included in Statement 6 of Budget Paper 1 (page 6-50) in the 2013-14 Budget.

The average and variance of arrivals have been changing over time, with changes both up and down over the past five years. While recent arrivals have been around 3,000 a month, there have been major changes to Australia’s UMA policy in recent weeks, including the announcement of regional processing and resettlement (in PNG and Nauru) for UMAs arriving after 19 July 2013, which is expected to provide a material deterrent on future arrivals over time.

The 2013 Economic Statement included an estimates variation that accounted for the additional costs of UMAs who arrived since Budget.

The PEFO retains the arrival assumption and methodology from Budget (1,100 per month in 2013-14), updated for: the revision to the 10-year rolling average to include the impact of arrivals since the Budget; and revised estimates of the number of UMAs being placed on bridging visas reflecting the faster release into the community of pre-19 July arrivals (Table E1).

**Table E1: Arrival rate assumptions (persons)**

	2013-14	2014-15	2015-16	2016-17
2013-14 Budget	13,200	8,160	3,120	3,120
PEFO (Economic Statement)	15600(a)	8,826	4,452	4,452

(a) Includes an additional provision for actual arrivals in 2013 at the time of preparation.

Source: Department of Finance and Deregulation.

Retaining the arrival assumption at 1,100 per month for 2013-14 at this time is prudent. It reflects an on-balance judgement that incorporates recent arrival rates on the one hand and the likely impact, over time, of recent policy announcements on arrival numbers on the other hand.

In recognition of the inherent uncertainty of arrival estimates, Table E2 provides the underlying cash impact over the forward estimates of two further scenarios:

- Scenario 1 assumes a drop in arrivals to the long-term average of 370 per month for 2013-14, sooner than would occur under the PEFO approach.
- Scenario 2 assumes an increase in arrivals to the recent average (March to July 2013) of 3,000 per month for 2013-14, with a transition to the long term average by 2015-16.

**Table E2: Financial implications of alternative arrival scenarios**

	2013-14	2014-15	2015-16	2016-17	Total
	\$m	\$m	\$m	\$m	\$m
Scenario 1	322.2	315.6	203.7	200.8	1,042.3
Scenario 2	-1,102.5	-1,127.2	-656.3	-640.9	-3,526.8

Source: Department of Finance and Deregulation.

The cost estimates will continue to be reviewed and revised through budget updates.

