The Carbon Tax
Implications for the Economy

Event
- This note examines the likely impact of the introduction of a price on carbon will have on the macro-economy.

Impact
- Treasury modelling suggests that the introduction of a price on carbon will only boost consumer prices by an initial 0.7% and have a negligible impact on growth in the economy. While we agree with the assessment on inflation, its assertions that growth will be unaffected are far more questionable.

- At a minimum, the way in which the Government is compensating households for the carbon tax will have a substantial impact on the profile of growth, with the risk of a kick to spending in mid 2012 and a fall in spending in late 2012. But the compensation to households is also highly redistributive, with 1/3 of households not being fully compensated. This increases the chances that the carbon tax will create more uncertainty for households and so affect both the strength and composition of spending.

- Similarly, for businesses, there remains considerable uncertainty about how the price on carbon will affect their business in future years. To be clear, the carbon tax plan has been fully thought through and the compensation arrangements mean that there is no chance that huge swathes of industry will suddenly close down or that Australia is about to experience rolling blackouts.

- But it is not obvious that the current carbon plan will be sufficient to meet the Government’s goal of reducing carbon emissions by 2020. And, for business, this means that there is a risk that carbon pricing arrangements could look much more onerous in a few years time. And if that affects their business decisions today, then growth could look noticeably weaker.

Outlook
- The modelling undertaken by Treasury suggests that prices will rise by 0.7% in 2012-13 and by a further 0.2% in 2015. In our view, a price increase of around 1% is about right. The Carbon tax will raise about 1/3 of the revenue of the Goods and Services Tax when it was introduced, and the GST is estimated to have boosted inflation by a little less than 3%.

- The impact on growth is far less clear and more controversial. The Treasury modelling implies that there is virtually no impact on growth, in effect assuming that the compensation package to households and business is sufficient to offset the tax itself. But that is certainly not the full story.

- One approach to estimating the impact on growth is simply to look at the net cost to the government of introducing the carbon tax -- if it is a net drag on the budget then it suggests the government is injecting more money into the economy and, hence, that it could actually be stimulatory.
Analysis

- While there is a net cost to the government, this is not particularly large except in 2011-12, where the cost to the budget is $2.7bn. By bringing forward spending into the current fiscal year, it helps the government reach the promised land of budget surplus in 2012-13. But it does suggest that the plan will be stimulatory in 2011-12.

- Other considerations, however, are how the introduction of the carbon tax will affect household and business behaviour. And here our concerns are that the compensation packages are very complicated. This raises the risk that the introduction of the plan will increase -- not diminish uncertainty -- and hence could dampen spending.

- To use a concrete example, consider the impact on households. Ten percent of households will receive no compensation and one-third of households will be worse off. Of course, unless they are tax accountants, many households will be unsure of whether they are in that 1/3 of households who will be worse off. So, at least 1/3 of households will face loss of disposable income and these are also the households that undertake more discretionary spending. That will be a drag on growth.

- For the remaining 2/3 of households the compensation comes in several forms. First, there is a switch in taxation rates. The tax-free threshold will be raised from $6,001 to $18,201 in 2012-13. In other words, someone earning $18,200 will not have to pay tax or submit a tax return, and nobody will pay tax on the first $18,200 that they earn.

- So what's not to like about that? Well, that's only half the story. The downside is that the marginal tax rate on income above $18,201 will be increased from 15% to 19%. And for income above $37,001, the marginal rate will be increased from 30% to 32.5%. Again, for the average household earning, say, $60,000 per year, they could well be wondering what this all means for them.

- Then there are changes to family assistance payments and welfare recipients. Single pensioners and self-funded retirees will receive an extra $338 per year, people on unemployment benefits will get up to $228 per year, and families receiving Family Tax Benefit A will get up to $110 per year (while those on Family Tax Benefit B will only get $69). So, that is pretty clear isn't it?

- In our view, it is the timing of the payments that are probably most relevant for the growth profile. The lower-income households that have been promised more compensation (estimated to be 40% of households) will get paid these benefits before the tax is introduced (in May and June 2012). This is the bring-forward of spending into the current fiscal year which fortuitously clears the budget decks for a return to surplus in 2012-13.

### The changes to personal income tax rates and thresholds

<table>
<thead>
<tr>
<th></th>
<th>Current Threshold ($)</th>
<th>Marginal Rate</th>
<th>2012-13 Threshold ($)</th>
<th>Marginal Rate</th>
<th>2015-16 Threshold ($)</th>
<th>Marginal Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Rate</td>
<td>6,001</td>
<td>15%</td>
<td>18,201</td>
<td>19%</td>
<td>19,401</td>
<td>19%</td>
</tr>
<tr>
<td>2nd Rate</td>
<td>37,001</td>
<td>30%</td>
<td>37,001</td>
<td>32.5%</td>
<td>37,001</td>
<td>33%</td>
</tr>
<tr>
<td>3rd Rate</td>
<td>80,001</td>
<td>37%</td>
<td>80,001</td>
<td>37%</td>
<td>80,001</td>
<td>37%</td>
</tr>
<tr>
<td>4th Rate</td>
<td>180,001</td>
<td>45%</td>
<td>180,001</td>
<td>45%</td>
<td>180,001</td>
<td>45%</td>
</tr>
<tr>
<td>LITO</td>
<td>Up to $1,500</td>
<td>4% withdrawal rate on income over $30,000</td>
<td>Up to $445</td>
<td>1.5% withdrawal rate on income over $37,000</td>
<td>Up to $300</td>
<td>1% withdrawal rate on income over $37,000</td>
</tr>
<tr>
<td>Effective tax free threshold*</td>
<td>16,000</td>
<td>20,542</td>
<td>20,979</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Includes the effect of the tax free threshold and the low income tax offset (LITO).

Source: Treasury, Macquarie Research, July 2011
• However, if those households which are struggling to meet their current rental payments and are finding it hard to pay their electricity bills on time receive a cheque in the mail for $300, there will be a strong temptation to spend it. Thus, consumer spending could get a strong kick in mid 2012. But then the higher bills will come in and there won’t be much money left to cover it. Thus, spending in the second half of 2012 could be much weaker. Over the year as a whole, growth could be similar, but the profile may be very different.

• While the main risk for households is the uncertainty about whether they will be fully compensated for the tax, the main risk to business is where the future carbon price will be. To be sure, there will be winners and losers immediately from the imposition of the carbon price – and so there is a question as to whether the actions of the winners will completely offset that of the losers. But the more important issue is whether even the winners (or the potential winners) have confidence that they will remain better off in the medium term and so undertake the investment that the Government is counting on occurring.

• Certainly the Governance structures around future carbon pricing appears to give the Government a lot of discretion about how onerous the tax will be in future. And this uncertainty about the future may influence the decision of companies today.

What will the growth and inflation profile look like?

• If we take the RBA’s May 2011 inflation profile as the baseline that had underlying inflation at 3% in June 2012, and remaining at that level in December 2012. With the imposition of carbon pricing, underlying inflation would now be closer to 3¾% in the second half of 2012. This is clearly way above the top of the RBA’s target band. Now the RBA has made it clear that it will “look through” the initial impact on inflation. But in an environment where the RBA’s main concern was high inflation and the risk that inflationary expectations could start to slip, this clearly won’t allay those fears.

Treasury estimate of the impact on consumer price inflation

• At the same time, the growth profile will change. The household compensation payments that will be delivered in 2012 Q2 are worth $1.5bn, which is equivalent to ½% of quarterly GDP, almost 1ppt of quarterly household consumption and more than 5% of monthly retail spending. Thus, household spending could get a real kick along in 2012 Q2. This, however, won’t be sustained over the second half of the year (as this payment is one off) and hence household consumption could be much weaker in 2012 Q4.

• The key point is that the RBA will be receiving news about accelerating consumer spending – currently one of their main fears in the September quarter of 2012, just as inflation is surging towards 4%. This is an environment which is conducive to policy mistakes.
Point 1
• The Government has released details of its proposed price on carbon.

Point 2
• Treasury modelling suggests that the introduction of a price on carbon will only have a modest impact on inflation and a negligible impact on growth.

Point 3
• But we think carbon pricing will affect the profile of activity and increase the downside risks to growth quite substantially.
**Important disclosures:**

**Recommendation definitions**

**Macquarie - Australia/New Zealand**
- Outperform – return >3% in excess of benchmark return
- Neutral – return within 3% of benchmark return
- Underperform – return <3% below benchmark return

Benchmark return is determined by long term nominal GDP growth plus 12 month forward market dividend yield

**Macquarie – Asia/Europe**
- Outperform – expected return >+10%
- Neutral – expected return from -10% to +10%
- Underperform – expected return < -10%

**Macquarie First South - South Africa**
- Outperform – expected return >+10%
- Neutral – expected return from -10% to +10%
- Underperform – expected return < -10%

**Macquarie - Canada**
- Outperform – return >5% in excess of benchmark return
- Neutral – return within 5% of benchmark return
- Underperform – return <5% below benchmark return

**Macquarie - USA**
- Outperform (Buy) – return >5% in excess of Russell 3000 index return
- Neutral (Hold) – return within 5% of Russell 3000 index return
- Underperform (Sell) – return <5% below Russell 3000 index return

**Volatility index definition**

This is calculated from the volatility of historical price movements.

**Very high–highest risk** – Stock should be expected to move up or down 60–100% in a year – investors should be aware this stock is highly speculative.

**High** – stock should be expected to move up or down at least 40–60% in a year – investors should be aware this stock could be speculative.

**Medium** – stock should be expected to move up or down at least 30–40% in a year.

**Low-medium** – stock should be expected to move up or down at least 15–25% in a year.

**Low** – stock should be expected to move up or down at least 15–25% in a year.

**Recommendations** – 12 months

**Note:** Quant recommendations may differ from Fundamental Analyst recommendations

**Financial definitions**

All "Adjusted" data items have had the following adjustments made:

- Added back: goodwill amortisation, provision for catastrophe reserves, IFRS derivatives & hedging, IFRS impairments & IFRS interest expense
- Excluded: non recurring items, asset revals, property revals, appraisal value uplift, preference dividends & minority interests

**EPS** – adjusted net profit / efpowa

**ROA** – adjusted ebit / average total assets

**ROA Banks/Insurance** – adjusted net profit /average total assets

**ROE** = adjusted net profit / average shareholders funds

**Gross cashflow** = adjusted net profit + depreciation

"equivalent fully paid ordinary weighted average number of shares

All Reported numbers for Australian/NZ listed stocks are modelled under IFRS (International Financial Reporting Standards).

---

**Recommendation proportions – For quarter ending 30 June 2011**

<table>
<thead>
<tr>
<th></th>
<th>AU/NZ</th>
<th>Asia</th>
<th>RSA</th>
<th>USA</th>
<th>CA</th>
<th>EUR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outperform</td>
<td>50.37%</td>
<td>64.60%</td>
<td>64.82%</td>
<td>45.63%</td>
<td>67.74%</td>
<td>48.02%</td>
</tr>
<tr>
<td>Neutral</td>
<td>36.86%</td>
<td>21.22%</td>
<td>29.23%</td>
<td>51.30%</td>
<td>28.50%</td>
<td>38.42%</td>
</tr>
<tr>
<td>Underperform</td>
<td>12.77%</td>
<td>14.16%</td>
<td>6.15%</td>
<td>3.07%</td>
<td>3.76%</td>
<td>13.56%</td>
</tr>
</tbody>
</table>

(For US coverage by MCUSA, 12.44% of stocks covered are investment banking clients)

---

**Company Specific Disclosures:**

Important disclosure information regarding the subject companies covered in this report is available at www.macquarie.com/disclosures.

**Analyst Certification:**

The views expressed in this research accurately reflect the personal views of the analyst(s) about the subject securities or issuers and no part of the compensation of the analyst(s) was, is, or will be directly or indirectly related to the inclusion of specific recommendations or views in this research. The analyst principally responsible for the preparation of this research receives compensation based on overall revenues of Macquarie Group Ltd ABN 94 122 169 279 (AFSL No. 318062) (MGL) and its related entities (the Macquarie Group) and has taken reasonable care to achieve and maintain independence and objectivity in making any recommendations.

**General Disclaimers:** This information has been prepared by Macquarie Securities (Australia) Limited ABN 58 002 832 126 AFS Licence 238947 (MSAL) on behalf of Macquarie Investment Management Limited ABN 66 002 867 003 AFS Licence 237492 (MIML). The information is provided for licensed financial advisers only. This information is provided for general information purposes only and does not take into account the investment objectives, financial situation or needs of any person. It does not constitute a recommendation to pursue any investment strategy or take any other action. Historical economic data is not necessarily indicative of future results. Future results are impossible to predict. This information contains opinions, conclusions, estimates and other forward looking statements which are, by their very nature, subject to various risks and uncertainties. Actual events or results may differ materially, positively or negatively, from those reflected or contemplated in such forward looking statements. We believe the information provided herein is reliable, as of the date hereof, but do not warrant its suitability, accuracy or completeness. Information obtained, or based upon information obtained, from third parties has not been independently verified. MIML and MSAL are not authorised deposit-taking institutions for the purposes of the Banking Act (Cth) and their obligations do not represent deposits or other liabilities of Macquarie Bank Limited ABN 46 008 583 542 (Macquarie) or any other Macquarie Group Company. Macquarie does not guarantee or otherwise provide assurance in respect of the obligations of MIML or MSAL.