



**The Economic Impact of the Menie Estate Development on
the Scottish and local economy**

**A report for Trump International Golf Links Scotland
by the Fraser of Allander Institute**

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1. Introduction

Trump International Golf Links Scotland (TIGLS) has asked the Fraser of Allander Institute (FAI) at the University of Strathclyde to assess the total economic impact on the Scottish economy of the proposed 1400 acre golf and hotel development by TIGLS at the Menie Estate in Balmedie, some seven miles north of Aberdeen. The next section discusses some brief background on the Menie development, while the following section explains the methods used to estimate the economic impact of the TIGLS development on both the Scottish and local economies. Estimates of the economic impact of the development are detailed in sections 4 and 5 below.

2. Background

The Menie Estate Development

The main elements of TIGLS's proposed development at the Menie Estate are detailed in Table 1 below.

Table 1- Proposed Menie Estate developments
2 championship golf courses
Golf clubhouse
Golf academy
Golf maintenance building
Short game area and driving range
450 unit hotel
Conference area and spa
Staff accommodation unit
36 golf villas
950 holiday apartments
500 private residential houses
Parking and access infrastructure

3. Study Methods

Total Economic Impacts – Direct, Indirect and Induced Impacts

Our assessment of the economic impact of the Menie Estate development covers two main elements:

- i) The activity created during construction of the above facilities
- ii) The activity created once the ranges of facilities are operational

As noted above, this study aims to estimate the total economic impact of TIGLS development at Menie on Scotland, and it is appropriate to explain the meaning of this.

The total activity created by Menie can be measured at two levels. For example, the golf, hotel and associated activities at Menie will create economic activity in Scotland, simply as a result of their ongoing business operations in the golf and hotel sectors. This is termed the initial, or direct, effect of Menie, and comprises the employment and Gross Value Added (GVA, see below) that these ongoing activities create in both the Scottish and local economies¹. For example, the hotel will create employment in the hotel industry, and the number of jobs created is the initial (or direct) hotel employment impact. Similarly, construction of the development will create direct jobs in the construction sector.

However, as part of their ongoing business operations, the hotel and golf activities at Menie will pay wages to Scottish residents. Both will also purchase goods and services, some proportion of which will be spent on goods and services either produced or distributed by companies located in Scotland. Two further additional economic effects result from these wage and supplier expenditures, in both cases because the recipients of this initial expenditure will subsequently re-spend some of the monies received in Scotland. The first, known as the induced impact, occurs because employees will spend wages and salaries paid by TIGLS on other goods and

¹ The local economy comprises both Aberdeenshire and Aberdeen City.

services that are either produced or distributed within Scotland. The second effect, known as the indirect impact, results because suppliers to the Menie development will themselves make expenditures on staff and other goods and services produced or distributed within Scotland.

This re-expenditure of the initial payments made by Menie therefore means that the total amount of economic activity created by TIGLS is greater than the initial amount created by its initial operations. The creation of the initial output at Menie generates further demand for other Scottish goods and services, and its total economic impact on Scotland is measured by the sum of the direct, induced and indirect impacts.

Multipliers

The total effect of the Menie development, on both the Scottish and local economies, are usually summarised by deriving a multiplier. For example, a (hypothetical) Scottish employment multiplier of 1.50 can be interpreted as meaning that every one job at Menie supports an additional 0.5 of a job elsewhere in Scotland, once the re-expenditure effects outlined above have been taken into account. Multipliers therefore indicate the extent to which other jobs in Scotland rely on the initial activity at Menie.

Employment and Gross Value Added

Multiplier estimates are reported for both employment – the number of Full Time Equivalent (FTE) jobs created by the Menie development net of displacement and leakage – and for Gross Value Added (GVA). GVA is, as the term suggests, a measure of the value added to the economy by any economic activity. It is defined as the value produced by the activity itself, for example by the construction of the Menie development, less the value of goods and services purchased from other producers². It thus measures the value that the activity adds to the inputs it buys from others (hence value-added) and is equivalent to the activity's contribution to Gross Domestic Product (GDP) at basic prices.

² These are termed intermediate products.

Additionality

It should also be noted that the results reported here do not include any allowance for additionality. Additionality is generally measured within the context of government policy interventions in the economy, and attempts to measure the net impact of such interventions. For example³, suppose that the government introduces a policy to create employment in some area and employment increases from 10,000 to 20,000 over a ten year period. If employment would have grown to 15,000 anyway (i.e., without any government intervention) the net additional impact of the intervention is to create 5,000 jobs.

However, our understanding is that no policy support is proposed for the Menie development. If so, any activity created because of the development is wholly additional – the activity estimated for the Menie development will not be generated if TIGLS does not invest to create the facilities at Menie outlined in Table 1 above. We have therefore assumed that all activity created by the Menie development will be additional, during both the construction and the operational phases.

Leakage

As the Menie development will take place in Aberdeenshire, it is clear that any employment and/or GVA created will be generated there. However, it is equally clear that some employment may be taken up by residents from outwith the area, and our estimates have been adjusted to allow for this.

Displacement

Displacement arises where an economic activity takes market share from local firms producing the same good or service, and the net economic impact of the Menie development should make an allowance for this. Our assumptions, which are based on English Partnerships guidance, are spelt out below.

³ This example is taken from English Partnerships, *Additionality Guide*, 2004, page 4.

4. Menie Development Impact Estimates - Construction

Construction Impacts

Table 2 below details the estimated expenditure involved in constructing all elements of the Menie development detailed in section 2 above, estimated at £720 million⁴ and the initial Full Time Equivalent (FTE) employment created. Note that the figure of 6,095 FTE jobs refers to the number of direct jobs created across Scotland (local estimates are given below) and that this figure has not been adjusted for either displacement or leakage.

Note that the estimated costs shown (£720 million) are for construction only, and that TIGLS also expects to spend a further £115 million on Fixtures, Fittings and Equipment (FFE). However, as it was not possible to estimate the goods and services composition of this spending or the extent to which it be spent in Scotland, it was not possible to include an estimate of the employment or GVA this expenditure will create in Scotland or the local economy.

Table 2 - Menie Estate Development Expenditure and Employment	Total
Expenditure (£million)	720.0
Direct employment created (FTE)	6,095

We obtained our estimate of the direct employment in construction created by using Scottish Government figures to estimate the amount of expenditure necessary to create one construction FTE job in 2008 (£117,984). This figure was derived from 2005 Scottish Government output and employment figures⁵ which were then updated to 2008 values by using a construction cost index produced by the Department for Business, Enterprise and Regulatory Reform (DBERR)⁶.

⁴ Derived from construction costs estimates provided by Hardies Property and Construction Consultants.

⁵ Output/Employment ratios derived from "Scotland by Division: 1998-2005", Scottish Government.

⁶ Construction Statistics, 2007, Table 5.1, Resource cost index of building non-housing.

Displacement

We adopt two assumptions with regard to displacement, 25% and 50%. These figures are based on English Partnerships guidance⁷, and the first assumes that the activity at the Menie Estate will cause a 25% reduction in activity in the construction sector in Scotland, while the 50% assumption assumes that construction activity elsewhere in Scotland will fall by 50%. While the 50% assumption may seem high, and causes a considerable reduction in the number of jobs attributable to the project, we believe that adopting a conservative assumption reduces the risk of overstating the construction impacts.

Using the 25% assumption, the net impact is that the construction element of the development will create a net 4,572 jobs once we allow for displacement. Adopting the 50% displacement assumption means that the number of net jobs created falls to 3,048.

Leakage

We have assumed that leakage (the fact some employment may be taken up by residents from outwith the area) will be 20%. Net employment after allowing for displacement and leakage is therefore estimated at 3,657 (25% displacement) and 2,438 (50% displacement)

Multiplier Impacts

We have estimated the total number of jobs created in Scotland (including the additional jobs that result from the indirect and induced impacts discussed above) by applying the employment multiplier for the Construction sector (1.93) estimated by the Scottish Government. On the 25% displacement assumption, therefore, we estimate is that the golf elements will create 7,042 FTE jobs and on the 50% assumption will create 4,694 FTE jobs. Table 3 below shows the net construction FTE jobs created under both assumptions.

Table 3	
FTE Jobs Estimate - Scotland	Construction
25% Displacement	7,042
50% Displacement	4,694

⁷ See English Partnerships, *Additionality Guide*, 2004, page 21.

Gross value Added⁸

We have estimated GVA after allowing for both displacement and leakage as discussed above. We estimate that the construction of the Menie developments will create £399.9 million worth of GVA across Scotland using the 25% displacement assumption and £266.6 million if displacement is assumed to be 50% (Table 4).

Table 4 - Menie Estate GVA Estimate (£M) - Scotland	Construction
25% Displacement	399.9
50% Displacement	266.6

Local Estimates

Using the 25% displacement assumption, the above implies that the wage and supply expenditures made during the construction phase of the development will create an additional 3,384 FTE jobs (i.e., 7,042 - 3,657) across Scotland as a whole. Using the 50% assumption implies that the construction phase will create an additional 2,256 (4,694 - 2,438) jobs.

However, while the net direct employment⁹ (3,657 or 2,438 jobs) will create employment in the local economy (because this is where the construction activity is located), the additional jobs will be created across Scotland as a whole, and we must estimate the number that will be created locally. Note also that while the net direct jobs are in the construction sector, the additional jobs will be created in a range of Scottish sectors as the wage and supplier expenditures that drive them work through the Scottish economy.

We have estimated the distribution of the additional jobs by developing a reduced (11 sector) Input Output model that reflects the sectoral distribution of the expenditures made during the development of the Menie development. From this, we have estimated the impact of a £1 million construction expenditure and distributed the additional jobs that result from expenditure of £720 million according to this.

⁸ GVA has been estimated by applying GVA per worker ratios for 2005 from Scottish Government data published in Scotland by Division, 1998-2005, updated to 2008.

⁹ After allowing for displacement and leakage.

We then assume that the additional jobs will be distributed by the proportion of the local economy (Aberdeenshire and Aberdeen City) share of any Scottish industry. If, for example, 10 of the additional jobs are created in the Scottish computer industry and the local economy accounts for 20% of the Scottish computer industry, it is assumed that 2 of the 10 jobs created in the Scottish computer industry will be created in the local computer industry. This appears to be a reasonable assumption of how the additional jobs will be shared out within Scotland, effectively distributing local job by the regional market share of all Scottish industries.

We must also allow for the fact that local leakage may arise because some of the net direct jobs may be taken by residents from outside the local economy¹⁰. We have assumed that half of the 3,657 net direct jobs (estimated using the 25% displacement assumption) will be taken by residents from outwith the local economy, so that 1,829 net direct jobs will be taken by local residents. The number of additional jobs created locally is estimated at 336, meaning that a total of 2,165 local jobs will be created by the construction spending undertaken to develop the Menie estate.

Using the 50% displacement assumption, half of the 2,438 net direct jobs (1,219) jobs will fall to local residents and we estimate that number of additional jobs created locally at 224. In total, this means that 1,443 jobs are created locally (Table 5).

Table 5	
Local FTE Jobs Estimate	Construction
25% Displacement	2,165
50% Displacement	1,443

Using the same assumptions (half of all direct GVA is created locally and additional GVA is distributed using the regional market share assumption), we estimate that the construction element will increase local GVA by £120.7 million (25% displacement) and £80.5 million (50% displacement). These estimates are shown in Table 6.

¹⁰ This is in addition to the Scottish leakage assumption made above, and reflects the fact that some of the net direct jobs created in Scotland may be taken by residents of areas outside Aberdeenshire and Aberdeen City.

Table 6 - Menie Estate	
Local GVA Estimate (£M)	Construction
25% Displacement	120.7
50% Displacement	80.5

5. Menie Development Impact Estimates - Operations

Operational Impacts

We have estimated the operational impacts for three separate parts of the Menie development, Golf (which covers the two golf courses, the golf clubhouse, golf academy, golf maintenance building, short game area and driving range), the Hotel related (the 450 unit hotel with conference area and spa) and the Holiday Homes and Villas.

Golf Related Developments¹¹

We obtained our estimate of the initial direct employment created in the Golf-related elements by estimating a total output figure from an output/wage ratio derived from the Scottish Input Output tables and applying this ratio to the estimated wage payments made for the golf element of the Menie development¹². Direct employment was then estimated from a 2008 output per employee ratio for the Recreational, Cultural and Sporting Services sector (£57,884) derived from Scottish Government data¹³. Our estimate is that 300 (299.9) initial FTE jobs will be created once the golf element of the Menie development is operational.

Displacement

We again adopt two 25% and 50% assumptions with regard to displacement. Using the 25% assumption implies that the net impact is that the golf element of the Menie development will create a net 225 (224.9) FTE jobs once we allow for this. If we adopt the 50% assumption, net jobs created falls to 150 (149.9).

¹¹ This comprises the expenditures on the golf courses, the golf clubhouse, golf academy, golf maintenance facilities, short game area and driving range

¹² Wage figures were supplied by Johnston Carmichael.

¹³ Output/Employment ratios were derived from Scotland by Division: 1998-2005. Figures were updated to 2008 values by assuming that output per employee would increase in line with the trend in Scottish GVA.

Leakage

Again, we must include an estimate for leakage (the fact some employment may be taken up by residents from outwith the area). However, these are, at the Scottish level, these are unlikely to be significant¹⁴, and we have assumed that there will be no leakage of jobs from Scotland. Net direct employment (after allowing for both displacement and leakage) is therefore as shown in the paragraph immediately above (225 with a 50% displacement ratio and 150 with a 25% ratio).

Multiplier Impacts

We have estimated the total number of jobs created in Scotland (including the additional jobs that result from the indirect and induced impacts discussed above) by applying the employment multiplier for the Recreational, Cultural and Sporting Services sector (2.12) estimated by the Scottish Government. On the 25% displacement assumption, therefore, we estimate that the golf elements will create 478 FTEs and on the 50% assumption 319 FTE jobs (See Table 7).

Table 7 - Menie Estate FTE Jobs Estimate - Scotland	Golf Element
25% Displacement	478
50% Displacement	319

Gross value Added

We have again estimated GVA after allowing for both displacement and leakage, and estimate that the golf element will create £22.6 million worth of GVA (25% displacement) and £15.1 million worth of GVA (50% displacement), see Table 8.

Table 8 - Menie Estate GVA Estimate (£M) - Scotland	Golf Element
25% Displacement	22.6
50% Displacement	15

¹⁴ This would mean that people travel from outwith Scotland to work at Menie.

Local Estimates

Given that the development is within a few miles of Aberdeen City centre, we have assumed that there will be no additional local leakage – all direct employment will be taken up by residents of Aberdeenshire and/or Aberdeen City. The additional employment has been assessed using the regional market share assumption outlined above.

Using the 25% displacement assumption, we therefore estimate that all of the net direct golf jobs (225) will go to local residents. We estimate that the golf element will create a further 25 local jobs, a total of 250 jobs. Using the 50% displacement assumption, the number of local jobs created is estimated at 167 (Table 9).

Table 9 - Menie Estate Local FTE Jobs Estimate	Golf Element
25% Displacement	250
50% Displacement	167

Local GVA has been estimated similarly, that is by assuming that all direct GVA is created locally and by distributing additional GVA by regional market share. We estimate that the golf element of the development will create £14 million worth of GVA locally if displacement is assumed to 25% and £ 9.3 million worth of GVA if displacement is 50% (Table 10).

Table 10 Menie Estate Local GVA Estimate (£M)	Golf Element
25% Displacement	14.0
50% Displacement	9.3

Hotel and Related Developments¹⁵

Our estimate of the direct employment created in the Hotel element of the Menie development by estimating a total output figure from an output/wage ratio derived from the Scottish Input Output tables and applying this ratio to the estimated wage payments made for the hotel element of the Menie development. Direct employment was then estimated by deriving a 2008 output per employee ratio (£27,458) for the

¹⁵ This consists of the 450 bed hotel, conference centre and spa facilities.

Hotels and Catering sector from Scottish Government data. Our estimate is that 1,453 initial jobs will be created by the hotel element of the Menie development.

Displacement

We again adopt the 25% and 50% displacement assumptions. Using the 25% assumption implies that the net impact is that the golf element of the Menie development will create a net 1,090 FTE jobs once we allow for this. If we adopt the 50% assumption, net jobs created falls to 726 FTE jobs.

Leakage

We again assume that leakage will be zero at the Scottish level. Net employment after allowing for displacement and leakage is therefore as shown above, 1,090 FTE jobs with a 25% displacement ratio and 726 with a 50% ratio.

Multiplier Impacts

We have estimated the total number of jobs created in Scotland (including the additional jobs that result from the indirect and induced impacts discussed above) by applying the employment multiplier for the Hotels and Catering sector (1.20). On the 25% displacement assumption, therefore, we estimate that the hotel element will create 1,036 FTEs and on the 50% assumption it will create 870 FTE jobs (Table 11).

Table 11 - Menie Estate	
FTE Jobs Estimate - Scotland	Hotel Element
25% Displacement	1,306
50% Displacement	870

Gross value Added

GVA created, after allowing for displacement and leakage is estimated to be £ 24.9 million (25% displacement) and £ 16.6 million (50% displacement, see Table 12).

Table 12 - Menie Estate	
GVA Estimate (£M) - Scotland	Hotel Element
25% Displacement	24.9
50% Displacement	16.6

Local Estimates

We have again assumed that there will be no local leakage and that all net direct employment will be taken up by local residents. This results in an estimated number of 1,111 local jobs on the 25% displacement assumption and 741 if displacement is 50% (Table 13).

Table 13 - Menie Estate Local FTE Jobs Estimate	Hotel Element
25% Displacement	1,111
50% Displacement	741

Local GVA is estimated at £ 18.4 million (25% displacement) and £ 12.3 million (50% displacement, see Table 14).

Table 14 - Menie Estate Local GVA Estimate (£M)	Hotel Element
25% Displacement	18.4
50% Displacement	12.3

Holiday Homes and Villas

Our estimate of the initial employment created by Holiday Homes and Villas is much smaller at 74 (73.8) FTE jobs. This was obtained in a similar fashion to the golf and hotel estimates, by estimating a total output figure from an output/wage ratio derived from the Scottish Input Output tables and applying this ratio to the estimated wage payments made for the Holiday Homes and Villas element of the Menie development. Direct employment was then estimated from a 2008 output per employee ratio for the Other Services sector (£18,982) derived from Scottish Government data.

Displacement

Using the 25% assumption as above, we estimate that the Holiday Homes and Villas element will create a net 55.3 FTE jobs once we allow for this. If we adopt the 50% assumption, the number of net direct jobs created totals 36.9.

Leakage

We again assume no Scottish leakage and net employment after allowing for displacement and leakage is thus 55.3 FTE jobs (25% assumption) and 36.9 FTE jobs (50% assumption).

Multiplier Impacts

The total number of jobs created in Scotland (including additional jobs) is estimated by applying the Scottish Government employment multiplier for the Other Services sector in Scotland (1.30). On the 25% displacement assumption, therefore, we estimate is that the golf elements will create 72 FTEs and on the 50% assumption this equates to 48 FTE jobs (Table 15).

Table 15 - Menie Estate	
FTE Jobs Estimate - Scotland	Holiday Homes/Villas
25% Displacement	72
50% Displacement	48

Gross value Added

GVA created, after allowing for displacement and leakage is estimated to be £ 1.7 million (25% displacement) and £ 1.1 million (50% displacement, see Table 16).

Table 16 - Menie Estate	
GVA Estimate (£M) - Scotland	Holiday Homes/Villas
25% Displacement	1.7
50% Displacement	1.1

Local Estimates

We have again assumed that there will be no local leakage and that all net direct employment will be taken up by local residents. This results in an estimated net direct number of 57 local jobs on the 25% displacement assumption and 38 if displacement is assumed to be 50% (Table 17).

Table 17 - Menie Estate	
Local FTE Jobs Estimate	Holiday Homes/Villas
25% Displacement	57
50% Displacement	38

Local GVA is estimated at £ 1.1 million (25% displacement) and £ 0.7 million (50% displacement), see Table 18.

Table 18 - Menie Estate	
Local GVA Estimate (£M)	Holiday Homes/Villas
25% Displacement	1.1
50% Displacement	0.7

Table 19 below summarises the estimated operational impacts of the Menie Development.

Table 19 - Menie Estate Operational Impacts - Summary		Scotland	Local
FTE Jobs			
	25% Displacement	1,856	1,418
	50% Displacement	1,237	945
GVA			
	25% Displacement	49.2	33.5
	50% Displacement	32.8	22.3