

Expansion of points / stages set out in the schematic flowchart

1. MTAN 1 'target' figure (South Wales 15 – 16 mt pa)

The existing population of South Wales (RAWP area) is in the region of 2.26 million. The multiplication factor has been estimated at 4.4 tonnes / capita using the Ove Arup formula. This results in a target figure of 11.3 million tonnes per year.

The population projection for the next 5, 10 and 15 year periods are as follows: -

2005	2.26
2010	2.32
2015	2.37
2020	2.41

2. Determination of current reserves

These will be determined using the QPA figures; / Annual Survey 2004 figures; and paper on the likelihood of reactivation. Current figures indicate 8% of inactive / dormant reserves appear to be unlikely to be worked. Should these reserves be discounted for the purpose of the RTS?

A 10 year landbank needs to be maintained throughout the RTS period of 15 years for hard rock. The proposed 5 yearly review of the RTS will enable the landbank of reserves to be re-estimated to satisfy this requirement.

The question of whether or not high psv reserves should be deemed a special case is worthy of further consideration. Such material is exported in significant quantities.

3. Determine current and future consumption of aggregates

The Annual Survey 2004 will be used to provide the base data for the RTS. In addition, all development plans will be scrutinised to determine key development areas. Other major developments which may come on-stream during the RTS period will be considered i.e. Bluestone Park (Pembrokeshire), Valleywood film studio site (near Pencoed), M4 improvements etc.

Population projections will be reviewed as more up-to-date data is generated and as population increase is directly related to increased construction activity, such statistics will be carefully monitored.

As advised in the Arup report a surplus / deficit by MPA table will be produced. In surplus at present are: - Bridgend / Powys / Vale. In deficit, Swansea, Carmarthenshire, Pembrokeshire, Merthyr, Torfaen,

Blaenau Gwent, Neath, Rhondda Cynon Taff and Monmouthshire. In balance: - Cardiff and Caerphilly.

4. Demand for aggregates

Influences on demand such as the GDP and CEBR will be investigated. A slow but steady increase in demand is forecast over the next 15 years.

Other influences such as export markets will be considered. AM2005 will be able to give a better indication on distribution but unfortunately the results of AM2005 may not be available before the survey is completed. AM2001 highlighted quite significant flows to the West Midlands of 1.3 mt. The West Midlands RAWP report 2004 highlights a continued expectancy of 16 mt over the next 10 years.

Other exports amount to a further 1 mt to the South West / North West and numerous other smaller amounts across the South East / Midlands.

5. Assessment of environmental capacity

IMAECA has been utilised to determine where numerous extraction is being undertaken and which areas in principle demonstrating over capacity. Based on a preliminary examination of the system, it is evident that areas around Cardiff, Creigiau, Merthyr, Hirwaun, Rhymney, Gelligaer, Blaenau, Abertillery, Haverfordwest and Angle fall into the over-capacity category. There are also coastal areas such as St Davids, Strumble Head, Fishguard and Newport which are over capacity.

The significant extent of these areas of over capacity is not surprising bearing in mind the high landscape and heritage value of Wales, together with the historical legacy of numerous quarries and mines in close proximity to settlement. As acknowledged previously, areas of over capacity do not necessarily mean that quarrying should cease. Nonetheless, the system does highlight those areas that may be worthy of examination as alternatives to existing production areas. The system, does not therefore provide the final decision but a way of informing the decision making process. Other factors such as alternative geological resources and availability of secondary aggregates / construction and demolition waste in the locality will also be pertinent in the assessment.

6 & 7 List sites, their rock type and reserves

AM2004 provides the base data. Once a full analysis of all of the sites and their characteristics have been considered, alternative resources such as secondary aggregates and construction and demolition waste can be considered. It should be noted that according to the Smiths

Gore Survey 2003 a considerable amount (38%) and construction and demolition waste is already being utilised and a significant amount of the remainder would be very difficult to segregate. Hence, the volume of material available or potentially available for further aggregate substitution is limited. WET will be preparing a position statement for consideration as part of the RTS process.

Investigations into the potential for large quantities of china clay to be imported signify the opportunities are remote. Factors such as transport costs, low end use, and demands for the material in the South East markets which are closer all point to this source being discounted certainly in the short to mid term. The current problems that Imerys are experiencing with competitive world markets for Kaolin points to a difficult time ahead.

8. Determine input of marine sand and gravel resources on supply

Supply and demand patterns produced by industry and known licensed take-up of tonnages in the Bristol Channel suggests an unchanged pattern within the next 5 years. However, it is evident that cheaper supply sources such as harbour / river dredgings are being sought out and utilised because they avoid the aggregates levy. This source accounts for approximately 10-20% of all arisings and needs to be regulated.

It is evident from discussions with industry that there is a maximum 30k (rule of thumb) haulage distance for sand and gravel from the landing point at wharves. Bridgend is supplied by both Swansea and Newport. The majority of material supplies the construction industry with a high quality product which is not easily replaced.

Decisions on a number of current / recently current licence applications are imminent, which will give a clearer picture of the source of future supplies. Those decisions include the important Nobel (inquiry 2006) and Helwick Banks (approval for 300 k per annum over 10 years, issued in April 2006). No industry feedback has been received to suggest a significant change in supply patterns. Areas such as the West Midlands supply up to 140,000 tonnes of sand and gravel, into South Wales, presumably to the eastern fringe of the SWRAWP area.

9. Exports / imports and their influence on supply / demand

Annual survey reports received from the South West / West Midlands / North Wales do not suggest any marked change in materials imported into South Wales. As expected, the largest imports occur in the Mid Wales border region where certain types of aggregate are scarce (carb. limestone / sand and gravel). There may be opportunities to reduce such movement but bearing in mind the volumes involved by aggregate type, no one volume stream / flow may be sufficient to warrant opening a new quarry even if suitable alternative sources can

be located. Generally speaking, the road network in Mid Wales is not ideally suited to the passage of high volumes of hgv's but this impact must obviously be balanced against any perceived advantages such as rural employment.

AM2005 will provide a valuable update on this issue but this may not be available in time.