

Population Growth: A Multiplier of All Problems

Summary Conclusions of Recent Research by Population Matters

Conclusion and Recommendations

Stable or reducing populations are an essential pre-condition for economic, social and biophysical sustainability – population growth makes all UK and global problems of environment and resources harder (and ultimately impossible) to solve. England is already the most over-crowded country in Europe; the UK is 73% ecologically overshoot (data from the Blue Planet Award-winning Global Footprint Network); while 80% of people want a smaller UK population. The Government and opinion formers should:

- create a national consensus that a stable or smaller population is an urgent national interest;
- add Population to the duties of an inter-departmental Minister, with a small co-ordinating staff;
- review tax and benefit policies, removing perverse incentives for large (>two children) families;
- set a long-term UK policy aim of balanced migration;
- promote population stabilisation policies, by voluntary means, internationally.

1. More Costly UK Infrastructure for No Gain

Each additional person requires £165k to be spent on housing, infrastructure, equipment and training, to extend to them the services and living standard of current UK residents. This cost is borne by existing residents, through a higher cost of living. At the current population growth rate, this corresponds to over £1k per person each year. Between 1960 and 2010: maintenance of fixed capital (turnover) has cost 13.3% of UK GDP; its expansion has cost 6.9% of GDP per 1% population growth; i.e. expanding infrastructure and equipment capacity at the current population growth rate of 0.7% pa requires 4.8% of GDP pa. Applying these figures to ONS projections 2010-2050, population growth would cost:

- Low (0.24% population growth pa): 1.7% of GDP pa or £26bn pa;
- Medium (0.58% population growth pa): 4.0% of GDP pa or £67bn pa;
- High (0.86% population growth pa): 5.9% of GDP pa or £106bn pa.

The cumulative cost of UK population growth to 2050, assuming constant per capita GDP, adds up to: low population growth £1.1tn; medium £2.7tn; high £4.2tn; simply to maintain, current standards.

O'Sullivan, Dr Jane U. of Brisbane, 2013 populationmatters.org/documents/cost_population_growth.pdf

2. More Aid plus More People does not equal Less Poverty

In the 20 highest fertility countries with the fastest growing populations, the **number of people in absolute poverty has increased during the past three decades, despite a sharp increase in the amount of aid given.** High fertility rates and consequent rapid population growth is the main cause. Three sectors of aid contributed to fertility reduction: family planning, education and economic infrastructure. But these received only 16.38% of total aid, and **the key sector, family planning, received only 0.31%.** Fertility reduction is key to reducing poverty, the main aim of aid. In its absence, all other aid programmes have failed in this aim, and thus been partly wasted.

Wu, You LSE 2013* populationmatters.org/documents/aid_people.pdf

3. More Europeans, Harder Carbon Targets

The EU population (500m) range projected for 2050 is 47m fewer to 75m more. The top end would at current rates per head emit 15.11bn more carbon tonnes than now by 2050, requiring **362K more 2MW wind turbine equivalents to hold emissions constant.** To attain the 80% reduction target, the higher population would of course require proportionately more, with greater substitution and storage problems. **At the lower end, each EU resident's sustainable carbon 'allowance' would be 2.5 tpa; at the top end, 2.0 tpa – a significant (25%) difference at such low tonnages.**

Gao, Mengran Lancaster U 2013* populationmatters.org/documents/more_europeans.pdf

4. More People, More Power Stations, Higher Cost

The energy supply and cost implications of reaching the top of the projected 2050 UK population range (87.7m) rather than the bottom (68.7m), while cutting carbon emissions by 80% below 1990 levels:

- The additional cost of new power stations alone would be between **£380bn and £1.02tn;**

- This zero carbon capacity equates to 260k more **wind turbines, or 20 more turbines per day**;
- **Holding emissions constant requires additional renewables for 450k people pa (a new Liverpool)**;
- Massive investment is needed in (still infant) energy storage technology, to overcome renewables intermittency; this rises sharply with population growth.

Chan, Steven LSE 2012* populationmatters.org/documents/population_infrastructure_summary.pdf

5. **More People, Fewer Jobs; Lower Population, Higher Prosperity**

How many new jobs would the UK have to create to keep unemployment at mid-2000 rates under different population projections to 2050? The high projection (88m) requires an annual job creation rate of 0.60%; the mid projection (79m) of 0.45%; and the low projection (68m) of 0.25%. **A stable population is the best economically sustainable strategy to achieve long-term economic prosperity (real income per person).**

Xiao, Eric LSE 2012* populationmatters.org/documents/population_prosperity.pdf

6. **More People, Less Water**

The implications for UK water supplies at the limits of the projected 2050 population range, 64-82 million, are: the higher end would require **1.5 - 4.9m more tonnes of water per day** than the lower end; the **additional reservoirs would cost £5.9 - £22.6bn more; all merely to maintain supply standards.**

Shukla, Rusha LSE 2011* populationmatters.org/documents/water_report_summary.pdf

7. **Running Up a Down Escalator: Carbon and Cost Implications of 10 Million More UK Residents by 2033**

The medium ONS projection of 10m more people in the UK by 2033 would add:

- **1 bn of CO₂t; or renewables equivalent to 27k wind turbines, just to hold total emissions constant;**
- **£1tn extra expenditure on public infrastructure, just to maintain current standards.**

Anastasaki, Erasmia LSE 2010* populationmatters.org/documents/escalator_summary.pdf

8. **UK Food Supply Vulnerability**

How many people could the UK feed in 2050?

- At current consumption levels, **the maximum sustainable UK population would be 15m.**
- The projected 75 million could be sustained only at 20% of current consumption per head.

Rousseau, Popi LSE 2010* populationmatters.org/documents/food_supply_summary.pdf

9. **Sustainability with Ageing**

The care implications of a UK population of 60m in 2050 rather than the projected 76m. Estimated economic growth, health care costs, pensions, and education, on different population trajectories, gave:

- **For population above 50m, pension costs rise little as a % of GDP; health costs remain manageable;**
- 2050 population sizes below 50m would struggle with rising pension and health-care costs.
- Increased participation of women and older people in work would enable economic growth with a smaller workforce.

Smith, Adam LSE 2010* populationmatters.org/documents/ageing_society.pdf

10. **Fewer Emitters, Lower Emissions, Less Cost**

Compares the cost per tonne of carbon abated through family planning services (reducing future demand) and through conventional means, notably renewables (increasing future supply).

- Family planning costs £4 to abate a carbon tonne; low-carbon technologies average £19.
- Meeting unmet need for family planning (215m) would save 34bn carbon tonnes over 2012-50.
- These figures ignore the impacts, 100% abated in for a modest one-off cost, of an **(unwanted) non-existent person's non-existent descendants in perpetuity.**

Wire, Tom LSE 2009* populationmatters.org/documents/reducing_emissions.pdf

* Note: LSE and Lancs references are to Masters students' Projects commissioned and supervised by PM.