

Arun District Council Ford Eco-Town Select Committee

Climate Change

Submission by C.J. Humphris on behalf of CAFE

“Sense and Sustainability” – Given the impact of climate change would you chose to build an Eco-Town at Ford?

Overview

The UK Climate Change Impacts Programme 1998 and 2002^{1,2} (UKCIP98 & UKCIP02) has reviewed the possible consequences and recommended responses to climate change. The Programme has provided views of possible futures through the use of scenarios based on the best available current scientific knowledge. This work provides a compelling and consistent picture of increasing likelihood of hotter, dryer summers, warmer but wetter winters, rising sea levels, and an increased frequency of extreme events i.e. extremes of summer heat, more aggressive storms and stronger winds. The bad news for Arun is that the impact of climate change in the South East is likely to be among the most severe of any region in the UK, and that coastal regions and associated tidal river estuaries are far more sensitive and vulnerable than inland regions to the flooding, storm surges and storm wind damage that will be associated with climate change. The current UKCIP results³ confirm the changing patterns of weather (UKCIP08) – these changes are already with us.

This paper considers the incremental impact of building an Eco-Town at Ford and the issues this raises for the local infrastructure, and the adaptation and mitigation that would be necessary for this to be a sustainable community. Given Ford's location, climate change costs will inevitably be high relative to other locations and therefore the sense of the Ford Eco-Town is questioned.

The Ford Eco-Town Proposal

Ford Eco-Town proposes at least 5000 homes and a speculative enterprise/science park area on a site of 350 Hectares (87% Greenfield) located 2 – 3 miles from the shoreline on the coastal plain and adjacent to the river Arun and its flood plain. The site is low lying, typically between the 5 and 10 meters contour line and the initial review by the Ministry of Communities and Local Government⁴ notes that it includes land in all 3 flood zone categories.

Nobody today knows who will buy these properties but a reasonable assumption is that the new community will reflect the local demographic make up⁵. We should therefore expect the development to add a community of at least 11,000 with 38% over 55 (cf. national 26%), given the relative attraction to retire to the area compared to working here (low average wages).

Key Anticipated Climate Change impacts ⁶

1. It will be warmer all year (between 1 – 3⁰C by the middle of this century) with most of this warming occurring in summer and autumn. Summers will be sunnier more frequently and this, linked to higher temperatures, will lead to a large increase in summer evaporation and potential water shortages at peak times during drought periods. The South East is already designated as an “area of serious water stress” by the Environment Agency. In its examination of the Plan the examiners noted⁷ that water supply should cope but with two caveats – that additional supplies are identified and further opportunities to import water are taken. Possible problems with water supply were not considered insuperable but they do require action. **Ford however adds a significant incremental demand over that envisaged in both the South East Regional Plan and in the draft Water Resource Management Plans of Portsmouth Water⁸ and Southern Water⁹**; who responsible for supply and waste treatment respectively west of the Arun. Portsmouth note that there will be supply shortages in critical periods before 2020 before considering potential Climate Change issues outlined in UKCIP, especially if the Environment Agency reduces abstraction licences (to protect the ecosystem and its sustainability) before 2015. It is reliant on the development of the Havant Thicket Reservoir in the longer term. Southern notes that it is already a net importer of water and that it faces a range of constraints developing new resources. It envisages the need for a new abstraction point on the Arun above the tidal limit. Both companies propose planning for desalination units in the period up to 2030.
2. Lower summer river flows and changing patterns of rainfall (up to 40% lower in summer, 20% higher in winter) are expected to affect water quality in chalk streams and rising sea level are expected to increase the salinity of the river Arun, limiting possible additional supplies.
3. The South East Structural Plan examination also points out that local waste treatment is at or close to capacity in the region. Investment will be needed to meet the requirements of the EU Water Framework and Habitat Directives.
4. Extremes of weather are expected to become more frequent with more extremely hot summers similar to those experienced in 1976, 1995, & 2003. Such periods have a disproportionate impact on the health of the elderly and as a result of the high rates of fatality in France due to the heat of the summer 2003, the direct health impacts of climate change became a core theme of the WHO European Environment and Health Programme¹⁰. This will place additional load on local emergency health services.
5. The second aspect of weather extreme will be the increased frequency of winter storms and days of intense rainfall. The change of land use from agriculture to housing at Ford will have a significant local effect on the capacity to absorb torrential rain and run-off in a flood sensitive area. The concreting over of rural

England was regularly cited as an underlying cause of the catastrophic flooding in South Yorkshire and the Severn valley last summer.

6. And sea levels are expected to rise (40 - 50cms by mid-century) raising the prospect of more frequent over-topping of the river defences especially at the time of storm surges. The risk from flooding is the combination of the likelihood of the event (which is rising with climate change) and the impact - number of properties affected (which the Ford Eco-Town proposal would increase significantly). Interestingly the Ford proposal states that: *“The new north – south link road will be set at a minimum elevation to provide a safe, dry access route for all local residents, workers, and commuters at times of flood increasing safety in the district”* – a sensible precaution, but hardly an encouragement for potential home buyers to invest, or insurers to insure.

Conclusions

It is not possible to claim that the anticipated impacts of climate change are insuperable; adaptation and mitigation could almost certainly be engineered, but at a cost. Given the location of Ford in Arun and the local topography however this cost is very likely to be higher than at alternative inland locations. It is also possible to question whether a relatively high cost development at Ford is commensurate with the spirit of truly affordable housing and who might bear this cost –one way or another it is always the local community and consumers. Given that the existing settlements face these same climate change issues it is surely better to concentrate development there so that the limited investment funds for adaption and mitigation can be focussed rather than spread to include a new settlement; a new settlement which itself has the capacity to add to the problems. Ford is clearly the wrong place to build an Eco-Town, it makes no sense and is of questionable sustainability.

A consistent message for UKCIP is the need for new integrated, holistic and precautionary approaches to development planning given the complexities, interactions and, above all, the uncertainties of climate change impacts. This approach was taken with the South East Scoping Study which underpinned the South East Regional Plan. The Ford Eco-Town would be a significant additional development and would place additional load on the local infrastructure and ecosystems. It is not the result of the recommended new integrated approaches to planning. It is a purely development led proposal serving predominately the economic interests of the developers and land owners, and political expediency.

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References

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The author worked for 34 years for BP as a research scientist, business strategist and held senior business management positions in Speciality Chemicals and in Plastics. He was project manager and author of the report Enhancing the Competitiveness and Sustainability of the UK Chemicals Industry to Lord Sainsbury before working for 4 years as Executive Director Research and Innovation, CEFIC in Brussels, www.cefic.be. At CEFIC he was responsible for activities relating to European Policy in support of Innovation and Sustainable Development including a major programme on Sustainable Chemistry (SUSCHEM) in partnership with the European Commission. He represented the World Business Council for Sustainable Development on the WHO European Environment and Health Committee. He is an Alumnus of the business school IMD, Lausanne. He is a member of the Technology and Industry Forum Executive of Royal Society of Chemistry and is a titular member of the Chemistry and Industry Committee of IUPAC.