



## UEL Research & Knowledge Exchange Conference 2013

### Call for Abstracts

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<b>Title of Abstract:</b>	Energy, Development and Health Futures in Poorer Countries
<b>Key Theme/ Key words:</b>	Economic Growth, Health in Developing Countries

#### **Abstract (No more than 400 words):**

**Objective:** While the link between health, social and economic development is being re-emphasised; the sustainability of current patterns of energy use which fuel economic development is being questioned because of fossil fuel depletion and climate change. In this paper we review and extend International Energy Agency (IEA) projections for economic growth and energy consumption; and estimate the impact of these on UN Human Development Index health indicators over the next century.

**Methods:** 1) Extension of IEA analysis to 2002-2102. 2) Estimation of the effect of GDP growth and improved education on under-five mortality rate (UFMR) and life expectancy at birth in females (LE) 1970- 2002 using a World Bank regression model and Bank country data. 3) Application of regression coefficients to projected growth in 50 countries with purchasing-power-parity (ppp)GDP < \$4,000 per capita in 2002 to project improvement in UFMR and LE 2003-2102.

**Findings:** On optimistic assumptions about energy efficiency and substitution of new energy sources, current conventional oil and gas reserves will be exhausted by the middle of the current century. At the point at which current oil (gas) reserves are projected to be exhausted, 44% (50%) of countries are projected to have achieved per-capita PPP GDP of \$4,000; 49% (59%) to have

achieved an under five mortality rate of less than 50 per 1,000 births and 65% (77%) to have achieved a life expectancy among females of 65 years

**Interpretation:** The poorest countries are unlikely to achieve the levels of health experienced in rich countries today before a serious energy crisis unfolds. Reduction in consumption in rich countries may be the only way to secure the health and development future of poor countries. Analysis of the evidence concerning the relationship between consumption and wellbeing suggest that such a reduction could improve rather than reduce wellbeing in rich countries.