Global megatrends assessment

Annex 1

European Environment Agency
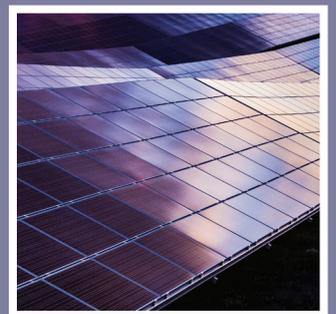
Annex 1 Factsheets on 15 recent global megatrends studies

Overview of the reviewed studies

1) WGBU, 2011, *World in transition – A social contract for sustainability*, German Advisory Council on Global Change, Berlin, Germany.

2) Hajkowicz, S. A., Cook, H. and Littleboy, A., 2012, *Our future world: Global megatrends that will change the way we live*, The 2012 Revision, CSIRO, Australia.

3) NIC, 2012, *Global trends 2030: Alternative worlds*, National Intelligence Council, Washington, US.

4) Ernst and Young, 2011, *Tracking global trends: How six key developments are shaping the business world*, Ernst & Young Global Limited, London, UK.

5) BITC, 2012, *Forces for change: global megatrends*, Business in the Community, London, UK.

6) EC, 2009, *The world in 2025 – Rising Asia and socio-ecological transition*, European Commission DG Research & Innovation, Brussels, Belgium.

7) COS, 2008, *Horizon scan report 2007 – Towards a future oriented policy and knowledge agenda*, Dutch Consultative Committee of Sector Councils, The Hague, Netherlands.

8) WEF, 2013, *Global risks 2013: Eighth edition*, World Economic Forum, Cologny/Geneva, Switzerland.

9) GFF, 2012, *The Future Report 2012*, Global Futures and Foresight, London, UK.

10) Oxford Martin Commission, 2013, *Now for the long term – The report of the Oxford Martin Commission for Future Generations*, Oxford Martin School, Oxford University, UK.

11) KPMG, 2014, *Future state 2030: The global megatrends shaping governments*, KPMG International and Mowat Centre for Policy Innovation, Toronto, Canada.

Four reports commissioned by the European Strategy and Policy Analysis System (ESPAS) task force:

12) EUISS and ESPAS, 2012, Global trends 2030 – Citizens in an interconnected and polycentric world, European Union Institute for Security Studies (EUISS), Paris, France, and European Strategy and Policy Analysis System (ESPAS) project, Brussels, Belgium.

13) RAND Europe and ESPAS, 2013, *Europe's societal challenges - an analysis of global societal trends to 2030 and their impacts on the EU*, RAND Europe, Cambridge, UK and Brussels, Belgium, and European Strategy and Policy Analysis System (ESPAS) project, Brussels, Belgium.

14) CEPS and ESPAS, 2013, *The global economy in 2030: Trends and strategies for Europe*, Centre for European Policy Studies (CEPS), Brussels, Belgium, and European Strategy and Policy Analysis System (ESPAS) project, Brussels, Belgium.

15) Chatham House, FRIDE, and ESPAS, 2013, *Empowering Europe's future: Governance, power and options for the EU in a changing world*, Chatham House, London, UK, Fundación para las Relaciones Internacionales y el Diálogo Exterior (FRIDE), Madrid, Spain and Brussels, Belgium, and European Strategy and Policy Analysis System (ESPAS) project, Brussels, Belgium.

Title of megatrend study (year):		
World in Transition A Social Contract for Sustainability (2011)		
References and contact information	German Advisory Council on Global Change http://www.wbgu.de/en/flagship-reports/fr-2011-a-social-contract/ Contact details: http://www.wbgu.de/en/contact/	
Organisations involved	**Initiator: commissioned / funded by whom?**	WBGU is an independent, scientific advisory body funded by the German Federal Government.
	Lead partner: developed by whom?	German Advisory Council on Global Change (WBGU)
Summary and key messages		

Summary of the megatrend study and key messages

The study is a detailed analysis of global megatrends with a focus on the considering the barriers and 'favourable' factors to the transformation that the WBGU seeks. The study has an interest on a 'new global social contract' whereby 'humankind' takes 'collective responsibility' for avoiding the various global 'dangers' identified in the study.

The study's key message is:

'In this report, the WBGU explains the reasons for the desperate need for a post-fossil economic strategy, yet it also concludes that the transition to sustainability is achievable, and presents ten concrete packages of measures to accelerate the imperative restructuring. If the transformation really is to succeed, we have to enter into a social contract for innovation, in the form of a new kind of discourse between governments and citizens, both within and beyond the boundaries of the nation state' (taken from the study's website)

Summary of the megatrends

The report differentiates between 'earth system' and 'global economic and social megatrends'.

Earth system megatrends:

- Climate change, climate impact
- Loss of ecosystem services and biodiversity
- Land degradation and desertification
- Water shortage and water pollution

Global economic and social megatrends:

- Development
- Democratisation
- Global energy trends: demand and production
- Urbanisation
- Increasing land-use competition: food production, bioenergy, forests
- Raw materials, nutrients, pollutants

Purpose and application	**Objectives and target audience**	The study is one of WBGUs 'flagship' reports which: *'provide in-depth scientific explorations of the overarching themes of global change and make recommendations for action and research … The federal government generally responds to these reports, and distributes them as official papers to the members of the German federal parliament (Bundestag) and council (Bundesrat)'.*
	Application area, users and uses in policy making	See Objectives and target audience. The report is primarily intended for the German federal government, however it also recognises the importance of the public and society – on a national, European, and even global level in bringing about 'transformations'.
Presentation / communication	**How is the study presented / communicated, e.g. use of maps, charts, narratives etc.**	The study has a number of different sections which are presented in a variety of ways. The first section uses maps and graphs to set out the main mega-trends. This is followed by largely discursive sections introducing the various theory and concepts that form the basis for the report. The final sections focus on 'bundles' of recommendations and are also discursive. The middle parts consist of a significant amount of quantitative detail on 'technical and economic feasibility' supported by historical and forecast charts and to a lesser extent maps.
	Language	German and English
	Access and cost	Freely available via the website
Evaluation	**Any in/formal evaluation of their use?**	No
	Success factors	n/a
	Barriers to success?	n/a
Description/ characteristics of megatrend study	**Exploratory / normative**	Primarily normative
	Qualitative / quantitative	Both
	Drivers considered	Although a specific list of drivers are not identified, drivers are considered across the study. The identified megatrends are described as drivers in some instances whilst also having their own identified drivers.
	Number of megatrends	Ten (10): four earth system megatrends, and six global economic and social megatrends.
	Thematic focus	Although the study considers all of the STEEP categories the megatrends presented do not explicitly consider technology.

	Specific Issue focus	The study explores in-depth global environmental, social and economic megatrends to identify value, policy and societal changes required to move to a more sustainable future. In particular the study examines energy / climate futures, in the context of the need for a low-carbon economy and society.
	Integration of environment / society / economy	Cross-cutting – as Specific issue focus. The report uses evidence and information from all of the identified megatrends to explore needs / actions / changes to bring about the transition to a sustainable society and economy.
	Spatial scale	Global.
	Temporal scale	No specific time frame. Most quantitative forecasts are limited to 2050.
	Ad hoc / ongoing process	Ad hoc. Although the WBGU do produce frequent, but not regular, thematic 'flagship' reports of which this is one.
Methodology	Research is based on 'individual expert studies' (which are available on the webpage) and significant expert (internal and external) support partly through comments received during 'hearings' conducted as part of their meetings. There were also two workshop / seminars which input into the research. These were the WBGU Workshop 'Land use Emissions' and an 'informal scenario workshop' both held in 2010. The experts and events contributed to the study via 'discussion, comments, contributions, advice, research and reviewing' (p. VI of the full study).	
	Methodological Transparency	There is no separate methodological section but some information is presented in the Acknowledgements including the names of all those involved.
	Additional information on the methodology N/a	
Stakeholders involved in the study development	**Approach to stakeholder involvement**	Primarily participative with analytical elements
	Stakeholders involved	Stakeholders include the Council Members who are drawn from a variety of Universities and research institutions. In addition input from other expert stakeholders is identified. The report acknowledges the contributions and input of a very large number of such experts who are primarily based in Universities and research institutions.

Study 2

Title of megatrend study (year):		
Our Future World: Global megatrends that will change the way we live: the 2012 revision (2012)		

References and contact information	CSIRO Futures: http://www.csiro.au/en/Portals/Partner/Futures/Our-Future-World-report.aspx	
	Study authors: Stefan Hajkowicz, Hannah Cook, Anna Littleboy	
	Contact: Dr Stefan Hajkowicz, Theme Leader, CSIRO Futures: Stefan.Hajkowicz@csiro.au	

Organisations involved	Initiator: commissioned / funded by whom?	CSIRO Futures is funded by the Commonwealth Scientific and Industrial Research Organisation (CSIRO) which is Australia's national science agency.
	Lead partner: developed by whom?	CSIRO Futures, public sector advisory body.

Summary and key messages

Summary of the megatrend study and key messages

The study is a high level summary of the results of CSIRO's global foresight project. The study presents and discusses the six identified megatrends. These megatrends are the main findings of the study.

Summary of the megatrends

The megatrend titles (in *italics*) presented are anachronistic and therefore the list below includes a short summary to clarify the scope of each mega-trend.

- *More for less* - is about the use of finite resources.
- *Going, going…gone?* - is about the continuing loss of biodiversity.
- *The silk highway* - is about the west-east and north-south shift in power.
- *Forever young* - is about ageing populations
- *Virtually here* - Is about increased virtual connectivity between individuals and the rise of digital media
- *Great Expectations* - is about changes in consumerism and culture

Purpose and application	Objectives and target audience	Webpage related to the report states that the report is intended to: inform a wide range of strategic science planning activities within CSIRO; and help inform Australian industry, government and community decisions.
		The CSIRO Futures programme seeks to provide industry, government and community organisations with an improved ability to plan for an uncertain world.
	Application area, users and uses in policy making	Other than CSIRO there a no named organisations or users although the study indicates the hope that 'industry, government and community organisations' will benefit from the results of the study.
Presentation / communication	How is the study presented / communicated, e.g. use of maps, charts, narratives etc.	The narrative of the study is presented alongside illustrations and schematics. There are no data maps or graphs. Quantitative information is presented as statistics within the narrative.
	Language	English

	Access and cost	Freely available via the website
Evaluation	**Any in/formal evaluation of their use?**	No
	Success factors	n/a
	Barriers to success?	n/a
Description/ characteristics of megatrend study	**Exploratory / normative**	Exploratory
	Qualitative / quantitative	Largely qualitative, though some quantified data included in narrative.
	Drivers considered	There is limited explicit description of drivers. In the report.
	Number of megatrends	Six (6)
	Thematic focus	Social, technology, ecological and environmental themes are considered but there is little consideration of political issues.
	Specific Issue focus	Cross-cutting – the study is broad in its focus and considers a range of issues.
	Integration of environment / society / economy	Cross-cutting – social / environmental / economic aspects all considered, and the interactions between them recognised.
	Spatial scale	Global, with a focus on implications for Australia, and its regional context.
	Temporal scale	An 'indicative' time frame of 20 years is given (to 2030).
	Ad hoc / ongoing process	The Our Future World report (2012) is an update of a previous version produced in 2010. The current report is described as an open document that will continue to be re-written in coming years as new information arrives and the future unfolds. CSIRO Futures has produced a number of frequent 'Futures Reports' see: http://www.csiro.au/Portals/Partner/Futures/Futures-Reports.aspx) It is not clear if these are produced regularly (e.g. annual) or on an ad-hoc basis.

Methodology	The study is a result of an on-going process based on the original 2009 megatrends study (published in 2010). The original megatrends were identified through a process of: literature review / research; interviews with the organisation's flagship directors and scientists from a range of disciplines; a 2 day workshop to classify and collate the trends into groupings which were then used to identify megatrends.
	Since that time CSIRO Futures have received feedback notably when presenting the 2009 study at conferences, professional seminars, board room briefings and community meetings. The authors have also updated the study by working with CSIRO colleagues.
	CSIRO Futures has a 'trends database' that is a collection of relevant trends that accumulates as they undertake various future reports. This is referred to as a collaborative online tool where CSIRO staff can add to and edit each other's trends. This database provided some of the information used in this study.

| | Methodological Transparency | There is a reasonably detailed section summarising the conceptual methods and information sources the authors use in the study. |
| | | For instance this section describes the Venn diagram the study uses to represent the integration of the mega trends. It also describes the information sources as set out in the box above. |

| | Additional information on the methodology |
| | The report also notes that: the information used to identify the six megatrends comes from the CSIRO trends database, several sector-specific foresight studies and feedback on conference presentations over the past two years. |

| Stakeholders involved in the study development | Approach to stakeholder involvement | Primarily analytical with participative elements, including interviews and a workshop – see Methodology above |
| | Stakeholders involved | Specific stakeholders are not identified. The report refers to 'hundreds' of people providing feedback and input, and the internal CSIRO trends database, collaboratively developed by CSIRO staff. |

Study 3

Title of megatrend study (year):		
Global trends 2030: Alternative worlds (2012)		
References and contact information	National Intelligence Council (NIC), 2012:	
	http://www.dni.gov/index.php/about/organization/national-intelligence-council-global-trends	
	No specific authors identified or contacts provided.	
Organisations involved	Initiator: commissioned / funded by whom?	National Intelligence Council (NIC) initiated the study. NIC is part of the Office of the Director of National Intelligence. This is an Executive Branch of the United States Government.
	Lead partner: developed by whom?	National Intelligence Council
Summary and key messages		

Summary of the megatrend study and key messages

The study is a detailed and structured assessment of global trends up to 2030. The study includes extrapolation of various trends but also possible 'black-swans' which are also termed 'tectonic shifts' and 'game changers. These are changes that are potentially rapid, uncertain and significant. In addition the study looks at a number of idealised scenarios and their potential impact. The focus of any impacts is primarily the United States, directly and indirectly.

Summary of the megatrends

The following four megatrends are identified:

- Individual empowerment

- Diffusion of power

- Demographic patterns

- Food, water, energy nexus

Within these megatrends there are identified 'tectonic shifts', these are more specific parts of the megatrends and include:

- Growth of the global middles classes

- Wider access to lethal and disruptive technologies

- Definitive shift of economic power to the east and south

- Unprecedented and widespread aging

- Urbanisation

- Food and water pressures

- US energy independence

The report also identifies 'game-changers' which are unexpected events that can cause change in a rapid and significant way and 'potential worlds' which are scenarios.

Purpose and application	Objectives and target audience	Global Trend Reports have been produced since 1997 '*to aid policymakers in their long term planning on key issues of worldwide importance*'. A new Global Trends Report is published every four years after a U.S. presidential election. The audience is said to be broadening. This particular report '*is intended to stimulate thinking about the rapid and vast geopolitical changes characterizing the world today and possible global trajectories over the next 15 years*'.
	Application area, users and uses in policy making	The NIC have a broad remit but their main focus is informing and integrating the United States various intelligence agencies and it can be assumed this, and other policy makers, are the primary audience.
Presentation / communication	How is the study presented / communicated, e.g. use of maps, charts, narratives etc.	The general structure is narrative around a specific topic or issue supported by supporting information (often pictorially). The study is well presented using schematics, narrative text, graphs, tables, call out boxes and various other presentation devices. As well as a reference list there are interactive hyperlinks to notable studies.
	Language	English.
	Access and cost	Freely available online.

Evaluation	**Any in/formal evaluation of their use?**	No.
	Success factors	n/a
	Barriers to success?	n/a
Description/ characteristics of megatrend study	**Exploratory / normative**	Exploratory.
	Qualitative / quantitative	Both.
	Drivers considered	Drivers are not explicitly considered within the analytical structure.
	Number of megatrends	Four (4).
	Thematic focus	Social, technological, economic, environmental and political topics are considered.
	Specific Issue focus	The study is very broad (cross-cutting), although it has a particular focus on governance and security, and the impact of megatrends on stability / conflict potential
	Integration of environment / society / economy	Cross-cutting – the study considers implications of trends in environment, society and economy.
	Spatial scale	Global but with a focus on the United States.
	Temporal scale	Up to 2030.
	Ad hoc / ongoing process	Ongoing: this is the fifth Global Trends report and these studies are produced after every presidential election – every 5 years.
Methodology	The research is said to be based on '*In-depth research, detailed modelling and a variety of analytical tools drawn from public, private and academic sources*'. NIC '*engaged with experts in nearly 20 countries—from think tanks, banks, government offices and business groups—to solicit reviews of the report*'.	
	The acknowledgement section recognises the input of a large number of individuals and organisations. It appears that numerous conferences, workshops, seminars and meetings were undertaken as part of the research. These events appear to be thematic and are pulled together by the NIC team. NIC and external consultants also undertook modelling to support their scenarios.	
	Methodological Transparency	The methodology is set out, as above, to a reasonable amount of detail.
	Additional information on the methodology N/a	
	Approach to stakeholder involvement	Primarily analytical with expert participation (see Methodology)

Stakeholders involved in the study development	Stakeholders involved	Not described in detail – summary indicates the following: think tanks; banks; government offices; and, business groups.

Study 4

Title of megatrend study (year): Tracking global trends: How six key developments are shaping the business world (2011)		
References and contact information	Ernst and Young (2011) http://www.ey.com/GL/en/Issues/Business-environment/Six-global-trends-shaping-the-business-world	
Organisations involved	**Initiator: commissioned / funded by whom?**	The study / report was developed in-house by Ernst & Young
	Lead partner: developed by whom?	Ernst and Young are the only organisation referred to
Summary and key messages		
Summary of the megatrend study and key messages The study identify key trends and drivers influencing the global economy, and draws conclusions of likely 'winners' and 'losers' as a result of the trends identified. The report is intended to provide insight for businesses to help them understand emerging threats and opportunities, and when best to respond to changes.		
Summary of the megatrends Six broad long-term developments 'that are shaping our world' are identified: - Emerging markets increase their global power - Cleantech becomes a competitive advantage - Global banking seeks recovery through transformation - Governments enhance ties with the private sector - Rapid technology innovation creates a smart, mobile world - Demographic shifts transform the global workforce		
Purpose and application	**Objectives and target audience**	The target audience are private sector organisations / companies. The report includes 'Key questions for global companies' for each trend. The report states that 'these questions, and in fact this entire report, are meant to be used as a guide — one that sharpens the focus on issues that are most important to your organization and frames your perspective in a way that helps organize the complexity of today's world.'
	Application area, users and uses in policy making	Aimed at business and business leaders, intended to stimulate thinking and help businesses identify threats and opportunities.

Presentation / communication	How is the study presented / communicated, e.g. use of maps, charts, narratives etc.	The study is presented as a PDF download, with a summary version presented as a navigable web-page. The study is well presented with a focus on statistics linked by narrative and supported by a few schematics and graphs. There are also a number of 'viewpoints' across the study written by named experts (from Ernst and Young). The viewpoints focus on specific issues related to sectors, business types or issues.
	Language	English.
	Access and cost	Freely available online.
Evaluation	Any in/formal evaluation of their use?	No.
	Success factors	n/a
	Barriers to success?	n/a
Description/ characteristics of megatrend study	Exploratory / normative	Predominantly exploratory, though contains normative elements relating to continued business development / growth.
	Qualitative / quantitative	Both.
	Drivers considered	Three underlying 'drivers' are identified: • Demographic shifts • Reshaped global power structure • Disruptive innovation
	Number of megatrends	Six (6).
	Thematic focus	The main focus is on social, technological, economic and political topics. Environmental topics are not explicitly considered, except as a (minor) contextual issue in which business planning / decisions will need to be made.
	Specific Issue focus	Cross-cutting – but the main focal areas is business / economic development.
	Integration of environment / society / economy	Primarily economic and social.
	Spatial scale	Global.
	Temporal scale	No specific time frame, though outlook indicators included relate to timeframes 2015 – 2020.
	Ad hoc / ongoing process	Ad hoc – this appears a one-off report.

Methodology	No methodology is stated.	
	The report is peppered with 'viewpoints' which are personal thought pieces.	
	Methodological Transparency	Not transparent – not method is included with / in the report
	Additional information on the methodology N/a	
Stakeholders involved in the study development	**Approach to stakeholder involvement**	Analytical – there is no evidence of participation with stakeholders, although the report includes 'viewpoints' contributed by Ernst & Young business sector leaders.
	Stakeholders involved	Not known

Study 5

Title of megatrend study (year): Forces for Change: global mega-trends (2012)		
References and contact information	Business in the Community: http://www.bitc.org.uk/our-resources/report/forces-change-global-mega-trends Also available as an 'online publication': http://digital.edition-on.net/links/6012_forces_for_change.asp No specific authors are named or contact details provided. The report includes a general email for more information: info@bitc.otg.uk	
Organisations involved	**Initiator: commissioned / funded by whom?**	Developed in-house by Business in the Community (BITC), which is a UK membership based organisation focussed on improving the broader social impacts of business.
	Lead partner: developed by whom?	Business in the Community is the lead partner.
Summary and key messages		
Summary of the megatrend study and key messages The study is an interactive summary of identified forces for change. 'Forces for change' is referred to as a framework for considering a changing world and how the members of Business in the Community can respond to these changes. '*This framework helps you to interpret these interconnected factors and spot the opportunities and risks for your business while delivering a healthy shareholder return and contributing to the long term wellbeing of society and the planet*'. The study identifies a number of 'top-line trends' under each element of the forces for change framework. Business opportunities are also identified. Each of the forces for changes is summarised in a few pages with external links provided to other resources and case studies.		

Summary of the megatrends

The 'forces for change' and their 'top line trends' are summarised below:

- Balance shift
    - Global economy; demographics and health; communities and lifestyle.
- Fragile earth
    - Changing climate and weather; depletion of natural resources.
- Protection
    - Increasing legislation on environmental and social governance issues; political intervention disrupting supply; disputes over territory and resources
- Transparency
    - Availability of and access to information; new media
- Connectedness
    - Web-enabled business models and processes; Consumers as co-creators
- Values shift
    - Decreasing trust of business; Expectation over business behaviour; Shifting balance of power between stakeholders.

Purpose and application	Objectives and target audience	Produced for members of BITC (businesses / business leaders). The report is intended to help business understand and plan for change. The conclusion suggests the following 'next steps': • raise awareness of the trends in and across your business • working with colleagues to interpret the most material opportunities and threats to your business • innovate new ways of doing business and trial these, whether starting with one element of your supply chain, a product, service, category, store or branch. Just start somewhere.
	Application area, users and uses in policy making	Aimed at business leaders for business planning purposes, specifically members of BITC.
Presentation / communication	How is the study presented / communicated, e.g. use of maps, charts, narratives etc.	The study available as an interactive online report, and a PDF download. It is very visually appealing and interactive with a large numbers of photographs and schematics. There is some statistical information but no graphs or tables in the main report, but a 'compendium' of data and evidence is available to download separately to the main report. This separate document includes the references and supporting information that are summarised in the main study. It includes a number of infographics, maps figures tables and other data presentational devices.
	Language	English.

	Access and cost	The summary report and compendium are freely available online but 'more content' (it is not clear what) is only accessible by members of Business in the Community who are logged-in to the website.
Evaluation	**Any in/formal evaluation of their use?**	No
	Success factors	n/a
	Barriers to success?	n/a
Description/ characteristics of megatrend study	**Exploratory / normative**	Exploratory
	Qualitative / quantitative	The summary / main report is primarily qualitative but the compendium includes a substantial amount of quantitative information.
	Drivers considered	Drivers are not explicitly considered within the analytical structure of the study.
	Number of megatrends	6 forces for change are identified.
	Thematic focus	Social, technological, environmental, economic and political aspects are considered.
	Specific Issue focus	Cross-cutting – although the study is intended for business readers, and this is reflected in the analysis, which focusses on business opportunities / risks.
	Integration of environment / society / economy	The report considers environment, society and economy – these are not however explicitly integrated: Fragile Earth, and (environmental) Protection are two of the identified Forces for Changes.
	Spatial scale	Global
	Temporal scale	Up to 2050
	Ad hoc / ongoing process	Ad hoc – the report is apparently a one-off.
Methodology	No information in available documents on the method used.	
	Methodological Transparency	No methodology provided, however the main report / online content is supported by a 'Compendium' of visual and quantitative data - indicators and links to sources used.
	Additional information on the methodology N/a	
	Approach to stakeholder involvement	Analytical (although no information is provided about the methodology)

Stakeholders involved in the study development	Stakeholders involved	The Compendium report includes a number of Credits to organisations (businesses, NGOs and charities), however it is not clear if these are organisations that contributed to the study or are partners more broadly in BITC.

Study 6

Title of megatrend study (year):		
The world in 2025. Rising Asia and socio-ecological transition (2009)		
References and contact information	Report produced by the European Commission, Directorate-General for Research http://ec.europa.eu/europeaid/infopoint/publications/external-relations/72g_world2025_en.htm Named author: Domenico Rossetti di Valdalbero, Tel. (32-2) 29-62811 domenico.rossetti-di-valdalbero@ec.europa.eu	
Organisations involved	**Initiator: commissioned / funded by whom?**	European Commission, DG Research-Science
	Lead partner: developed by whom?	The acknowledgements page states: This publication was prepared by the Directorate for Science, Economy and Science ('Socio-economic Sciences and Humanities') of the Research Directorate-General, under the authority of its Director, Jean-Michel Baer and with inputs from Paraskevas Caracostas, Pierre Valette, Domenico Rossetti di Valdalbero and Elie Faroult. This publication was prepared in co-operation with the Bureau of European Policy Advisers (BEPA) directed by Vitor Gaspar and with contributions from Vasco Cal.
Summary and key messages		
Summary of the megatrend study and key messages The study sets out three headline trends, see below, which are supported by the identification of three main tensions (with underlying sub-headings) and two major transitions (also with sub-headings). The study is focussed on the rise of Asia but the study is primarily global. Asia is in effect identified as the biggest megatrend up to 2025 hence the study is framed around it. The study is more of a summary of findings than a presentation of a detailed evidence base. The identified tensions are: • Tension between the current methods of production, of consumption and the future availability of non-renewable resources • Tensions between a general and simultaneous process of increasing economic interdependence and differentiation • Tensions between spatial proximity in the context of accelerated urbanisation and cultural distance The major transitions are: • Stabilising the world, recognising the new key-actors. • Draw on the ecological and demographic challenges to invent a new development model.		

Summary of the megatrends

The following trends are identified:

- The Asian century

- Poverty and mobility of men and women

- Increasing scarcity of natural resources, vulnerability of the planet

Purpose and application	Objectives and target audience	A specific audience is not identified, but the report is intended to inform decision making / thinking within the European Commission. The foreword states that: *'the sub-title of this publication 'Rising Asia and socio-ecological transition' is explicit and could be an inspiring source for the future strategy of the European Union'*
	Application area, users and uses in policy making	European Commission. No explicit link is made to a specific policy area, rather the study aligns itself to other Foresight and Forward looking activities and indicates that it is part of this movement.
Presentation / communication	How is the study presented / communicated, e.g. use of maps, charts, narratives etc.	The study is well presented focussing on narrative text which includes statistics. The presentation includes a large number of photos but no graphs or figures.
	Language	Available in English and French.
	Access and cost	Freely available for download as PDF via website.
Evaluation	Any in/formal evaluation of their use?	No
	Success factors	n/a
	Barriers to success?	n/a
Description/ characteristics of megatrend study	Exploratory / normative	The report is predominantly exploratory, although the 'major transitions' are normative.
	Qualitative / quantitative	Both, although the report is mainly a qualitative narrative.
	Drivers considered	Drivers are not part of the analytical framework.
	Number of megatrends	Three (3) 'trends' are identified, together with 3 'tensions' and 2 'major transitions'.
	Thematic focus	There is some, but limited, consideration of technology and political topics. Economics, environmental and social issues are prevalent.
	Specific Issue focus	Cross-cutting – 'socio-ecological transition'.

	Integration of environment / society / economy	Scarcity of natural resources and vulnerability are considered as one of the three key trends, however the analyses seeks to integrate environmental factors with social / economic development, in particular in the form of the 'transitions'.
	Spatial scale	Global but there is a focus on the impact of a 'rising' Asia.
	Temporal scale	To 2025.
	Ad hoc / ongoing process	Ad hoc – although the report is part of the wider foresight activities of the European Commission.
Methodology	No specific detail on the methodology is provided in the report. However the acknowledgement page of the report identifies: • The report was drafted by DG Research staff • The publication benefited from the results of the group of experts 'The World in 2025' set up by DG Research in 2008 • Constructive advice was formulated by several colleagues from DG Research • Many colleagues from other Directorates-General have also contributed to completing and improving this publication The acknowledgements also indicate that the study is based on / drew upon several existing forward-looking studies.	
	Methodological Transparency	Limited information is provided.
	Additional information on the methodology N/a	
Stakeholders involved in the study development	**Approach to stakeholder involvement**	The approach appears to have been a combination of analytical research, with diverse expert input. The exact means of expert participation is not stated.
	Stakeholders involved	The acknowledgements page identifies a large number of experts involved. These are predominantly from European Commission bodies. The members of the 'expert group' The World in 2025 are not stated / known.

Study 7

Title of megatrend study (year):
Horizon scan report 2007 - towards a future oriented policy and knowledge agenda (2008)

References and contact information	Consultative Committee of Sector Councils for research and development (COS) (2008)
	http://stt.nl/horizonscan-2007/
	Two chairpersons are identified as leading the project: Roel in't Veld and Hans van der Veen.
	No specific contact details provided. General contact: http://stt.nl/contact/

Organisations involved	Initiator: commissioned / funded by whom?	The report was developed in the context of the Consultative Committee of Sector Councils for research and development (COS) with financing from the COS Coordination fund.
	Lead partner: developed by whom?	The report is the final report of the 'Horizon Scan Project', a collaboration between COS members and observers.
		The lead partner was the Dutch Consultative Committee of Sector Councils for research and development (Commissie van Overleg Sectorraden, COS). COS is the collaboration platform of the sector councils and the Netherlands Study Center for Technology Trends (STT).

Summary and key messages

Summary of the megatrend study and key messages

The study is a detailed and structured consideration of likely future opportunities and problems. The study followed a series of steps: identifying threats and opportunities; evaluating threats and opportunities; linking and clustering; narrative 'essays'; and the identification of key questions per cluster.

The report makes a series of 'general suggestions':

- Every policy needs to be investigated in terms of its future resilience. The scan should make a permanent contribution to discussions about the future.

- Bundle foresighting activities for each of the named cluster themes and investigate which subjects require foresights that transcend borders and domains.

- Stimulate broad application of the Horizon Scan's data, information and knowledge.

- Develop alternative policy options that can withstand the future.

- Developing (inter)national cooperation

- Horizon Scans are also of service at the provincial, regional and municipal level.

The study is seen as part of an ongoing horizon scanning process in the Netherlands.

Summary of the megatrends

The results of the research are not presented as megatrends but rather as clusters of opportunities and problems identified through the research, the clusters considered are:

- Infrastructure for the future

- Changing economic and political world order

- Global approach to threatening infectious diseases

- Work and education in a new context

- Opportunities for robotics and inter-connectivity

- Two related transitions: creating and utilising space

- Handling conflicts and security policy constructively

- The engineerable and self-mutating human

- Accelerating the development of new energy sources

- What does the 'graying of society' mean?

Purpose and application	Objectives and target audience	The specific goals of the study are described as:
		'… to help decision- and agenda-makers, researchers and developers think about future societal problems, threats and opportunities. By charting and communicating future developments and their relations in a timely manner, we can be better prepared for 'surprises'. We have tried to meet this goal with the help of the Horizon Scan in the following ways:
		• By identifying and prioritizing the topics of foresight studies and other sector councils' activities;
		• By identifying topics that need further study or foresighting, but fall outside the domain of current COS members;
		• By feeding discussions with other parties, such as the major research organizations, ministries, societal organizations and the business world'.
	Application area, users and uses in policy making	Web page of the report states that '*the* [study] *does not offer solutions but is meant to stimulate broadly future-oriented thinking. Its approach transcends domains and disciplines.*
		In this way there is no specific identified application area, but the report is intended to contribute to thinking about future policy needs.
Presentation / communication	How is the study presented / communicated, e.g. use of maps, charts, narratives etc.	The study is primarily narrative with images and schematics to support the text. There are a number of detailed outputs in the appendices.
		The study includes a significant amount of information about the study's methodology and there are links to other outputs of the Horizon Scan Project.
		The report is supported by other outputs, including: the horizon scan website; a card game to explore futures; and various awareness raising activities.
	Language	Dutch and English.
	Access and cost	Freely available as a PDF download via the website.

Evaluation	**Any in/formal evaluation of their use?**	No.
	Success factors	n/a.
	Barriers to success?	n/a.
Description/ characteristics of megatrend study	**Exploratory / normative**	The study is exploratory, with the stated aim of stimulating future-oriented thinking.
	Qualitative / quantitative	Primarily qualitative supported by quantitative information.
	Drivers considered	Drivers are not part of the analytical framework, which instead identified a large number of threats and opportunities (from existing literature and expert views) and clustered these. Around 150 problems and new opportunities were identified (these are listed in appendix 4 of the report)
	Number of megatrends	Ten (10) (note they are not megatrends but 'clusters' of opportunities and problems).
	Thematic focus	All STEEP categories are considered. Problems and opportunities were considered in the following 'domains': - Physical environment - Basic facilities - Research, development and education - Social - Economic - Political, administrative and legal
	Specific Issue focus	Cross-cutting: the report explicitly seeks to 'transcend domains and disciplines'.
	Integration of environment / society / economy	Although the study is intended to be fully integrated, it appears to have a focus on technological and infrastructure / physical developments. However social and environmental aspects are integrated and considered.
	Spatial scale	The focus is the Netherlands but the study considers global challenges.
	Temporal scale	No specific timeframe is identified.
	Ad hoc / ongoing process	The report is part of a wider series of horizon scanning / foresight activities. Work is presently (2014) ongoing on a new horizon scan project: STT Horizonscan 2050 (http://stt.nl/horizonscan-2050/ - in Dutch only)

Methodology	The following methodologies are referred to in the method section:
	1. Literature study
	2. National and international consultations
	3. Identification of problems and opportunities
	4. Evaluation and weighing of problems and opportunities – individual lists
	5. 'Coupling and opportunities' through creative sessions and consultations
	6. Formation of clusters by drawing connections between domains and disciplines
	7. Description of clusters
	8. Essays per cluster
	9. Knowledge and strategic questions per cluster
	10. Report with prioritizing and recommendations for knowledge and strategic agenda
	The method included the following stages: identifying problems and opportunities; 'evaluating threats and opportunities'; 'linking and clustering'; 'the essay volume'; and 'knowledge and strategic questions per cluster'. At various stages in the process 'sounding board' meetings were held to input to the deliberations.

	Methodological Transparency	There is a detailed methodology section describing the method followed.

Additional information on the methodology

There were various structures in place to support the book. These include editorial boards and a sounding board, see appendix 1 of the report for a full list.

The study refers to studies undertaken by other countries, notably the Foresight Report in the United Kingdom. This, and other work, is said to have inspired' this study.

Stakeholders involved in the study development	**Approach to stakeholder involvement**	Primarily analytical with the use of expert led stakeholder groups and a sounding board.
	Stakeholders involved	Appendix 1 includes a long list of all the experts involved in the study. Members of the sounding board came from the following:
		• Knowledge institutions
		• Network Foresight Studies
		• Business community
		• Government
		• Societal organizations.
		Some elements are quite innovative, for example the 'essays' were written by scientists, journalists and politicians who were chosen by the group carrying out the scan to write essays about possible future developments based on the clusters of threats and opportunities.

Study 8

Title of megatrend study (year):
Global Risks 2013: Eighth Edition (2013)

References and contact information	World Economic Forum (2013), Lee Howell, World Economic Forum, Editor in Chief
	http://reports.weforum.org/global-risks-2013/
	The press-release that accompanied the Global Risks report identifies the following contact for further information: Rim El Habibi, Media Associate, World Economic Forum, rim.elhabibi@weforum.org

Organisations involved	Initiator: commissioned / funded by whom?	Funded and initiated by the World Economic Forum, specifically the World Economic Forum's Risk Response Network
	Lead partner: developed by whom?	The lead partner is the World Economic Forum in collaboration with: • Marsh & McLennan Companies • National University of Singapore • Oxford Martin School, University of Oxford • Swiss Reinsurance Company • Wharton Centre for Risk Management, University of Pennsylvania • Zurich Insurance Group

Summary and key messages

Summary of the megatrend study and key messages

The Global Risks Report 2013 analyses 50 global risks in terms of impact, likelihood and interconnections, based on a survey of over 1000 experts from industry, government and academia.

The report makes extensive use of graphics to present risks as a 'risk landscape' and 'risk map' showing the relative importance of risks (in terms of likelihood and impact) and mapping them into clusters (presented as risk cases).

It presents the top 4 risks based by their likelihood and impact, these are:

Likelihood:

- Severe income disparity
- Chronic fiscal imbalances
- Rising greenhouse gas emissions
- Water supply crises

Mismanagement of population ageing Impact:

- Major systemic financial failure
- Water supply crises
- Chronic fiscal imbalances
- Diffusion of weapons of mass destruction
- Failure of climate change adaptation

Summary of the megatrends

The report is effectively a ranking of 50 risks rather than an identification of megatrends. The report does identify the following categories of risk:

- Economic

- Environmental

- Geopolitical

- Societal

- Technological

Three 'risk cases' are identified, these include:

- Testing economic and environmental resilience

- Digital wilderness in a hyper-connected world

- The dangers of hubris on human health

Purpose and application	Objectives and target audience	The Global Risks report is the flagship research publication of the World Economic Forum's Risk Response Network, which provides an independent platform for stakeholders to explore ways to collaborate on building resilience to global risks. The target audience is business leaders and policy makers.
	Application area, users and uses in policy making	As well as wider use by business and policy makers, it is intended that the study will inform the various aspects of the World Economic Forum's work – including their regular Forums.
Presentation / communication	How is the study presented / communicated, e.g. use of maps, charts, narratives etc.	The study is very focussed on schematics and the presentation of complex visual information – notably the results of the risk surveys. The bulk of the study is narrative text, with statistics included to explain / exemplify risks. This text is reinforced by graphs, maps and tables. The report is available online and as a PDF download. There is additional interactive content only available online including videos and an interactive 'data explorer' enabling the user to select and explore the risks identified (e.g. selecting specific domains, or types of risk).
	Language	Main report available in English. Executive summary, press-release available in 12 different global languages including Spanish, German, French, Chinese, Vietnamese, and Russian.
	Access and cost	Freely available via the WEF website.
Evaluation	Any in/formal evaluation of their use?	No.
	Success factors	n/a.
	Barriers to success?	n/a.

Description/ characteristics of megatrend study	**Exploratory / normative**	Exploratory.
	Qualitative / quantitative	Both.
	Drivers considered	Drivers are not part of the analytical framework, which identifies and ranks risks.
	Number of megatrends	n/a.
	Thematic focus	All of the STEEP categories are considered.
	Specific Issue focus	Cross-cutting. However the broad focus is on risks to the global economy.
	Integration of environment / society / economy	The risks are considered in the following domains: Economic; Environmental; Geopolitical; Societal; Technological. These are considered separately, but presented together in the mapping / risk landscape. The risk cases presented consider all types of risks together (integrated) to identify key risk narratives.
	Spatial scale	Global. The risk explorer (online only) enables the user to explore risks by global regions: http://reports.weforum.org/global-risks-2013/section-seven-online-only-content/data-explorer/
	Temporal scale	Although no specific timeframe is identified, the report states that the risks are considered as those 'most likely to manifest over the next 10 years'.
	Ad hoc / ongoing process	Ongoing – the WEF produces a risk report on an annual basis.
Methodology	Report is based on an annual survey of over 1,000 experts from 'industry, academia and civil society' who are asked to review and rank over 50 global risks. The survey was conducted online. Section 6 of the report includes the survey and results as well as an analysis of participants. The report notes that Over 6,000 invitations were sent out and 1,234 respondents returned the questionnaire with usable information	
	Methodological Transparency	Detailed information is provided on the survey approach and methods for analysing and prioritising risks. The questionnaire used is included together with information on its analysis (e.g. average scores and margins of error).
	Additional information on the methodology N/a	
Stakeholders involved in the study development	**Approach to stakeholder involvement**	Participative, via the survey. The report notes that Over 6,000 invitations were sent out and 1,234 respondents returned the questionnaire with usable information

	Stakeholders involved	Experts from 'industry, academia and civil society' were surveyed. The report (appendix 1) include and analysis of the survey participants based on: Organisation; region of residence / expertise; area of expertise; age; gender.
		This shows participants came from: international organisations; NGOs; governments; businesses; and academic institutions.

Study 9

<table>
<tr>
<td colspan="3">Title of megatrend study (year):
The Future Report (2012)</td>
</tr>
<tr>
<td>References and contact information</td>
<td colspan="2">A Steria report (prepared by Global Future and Foresight (GFF)) (2012)
http://www.thegff.com/Articles/338576/Global_Futures_and/Reports/The_Future_Report.aspx
Lead author is David A Smith (CEO of Global Futures and Foresight).
Contact details:
http://www.thegff.com/Groups/37156/Global_Futures_and/About_Us/Contact_Us/Contact_Us.aspx</td>
</tr>
<tr>
<td rowspan="2">Organisations involved</td>
<td>Initiator: commissioned / funded by whom?</td>
<td>Steria commissioned the study and it was prepared by Global Futures and Foresight.

Steria is a global IT and business services consultancy company: http://www.steria.com/</td>
</tr>
<tr>
<td>Lead partner: developed by whom?</td>
<td>Global Futures and Foresight prepared the study.</td>
</tr>
<tr>
<td colspan="3">Summary and key messages</td>
</tr>
<tr>
<td colspan="3">Summary of the megatrend study and key messages
The study is a detailed presentation of numerous themes that are felt to be relevant to Steria's clients. The study hopes to express the importance of thinking long term and Steria's ability to do so. The presentation and description is relatively focused on this audience where links are apparent. It is however a broad, cross-cutting study.

The report brings together information (from a wide literature review) under a number of themes (see below), and provides a series of 'Implications' for each – these implications are intended to encourage thinking and relate to business implications primarily.</td>
</tr>
</table>

Summary of the megatrends

The following themes are presented and can be considered analogous to megatrends, these include:

- Globalisation
- Economies
- Population
- Urbanisation
- Energy
- Environment
- Business models
- Technology
- Work
- Outsourcing
- Regulation and legislation
- Government

Purpose and application	**Objectives and target audience**	No clear objective, other than dealing with complexity, although the target audience is explicitly Steria's clients. The foreword states that the report is intended as: a *'tool to help you and us maximise opportunities in the complex world ahead and proactively address the key transformation themes'*; and that it is *'an open enquiry on the major issues and trends ahead'*.
	Application area, users and uses in policy making	Steria provides support on IT and Communications to a range of different clients, no specific application area other than its own clients.
Presentation / communication	**How is the study presented / communicated, e.g. use of maps, charts, narratives etc.**	The study is mostly narrative supported by statistics, which are embedded within the narrative text. The document is well presented and includes some schematics but no graphs or tables are included.
	Language	English.
	Access and cost	Freely available via the GFF website.
Evaluation	**Any in/formal evaluation of their use?**	No.
	Success factors	n/a.
	Barriers to success?	n/a.
Description/ characteristics of megatrend study	**Exploratory / normative**	Exploratory.
	Qualitative / quantitative	Both, although the narrative is predominantly qualitative supported by data / statistics.

	Drivers considered	The report refers to 'key drivers of change' however these are not systematically presented.
	Number of megatrends	12 themes are identified.
	Thematic focus	The study is broad in its focus, and considered all aspects of the STEEP framework.
	Specific Issue focus	Cross-cutting, however the main focus is on implications for businesses of the themes and trends identified.
	Integration of environment / society / economy	'Environment' is included as one of the headline themes of the analysis. The focus is predominantly on business opportunities from 'environment' such as low-carbon 'solutions', clean-tech and waste / recycling. Environment (mainly climate change) is mentioned in other themes, but generally as a potential constraint to business, or a business opportunity (e.g. jobs in the environment sector).
	Spatial scale	Global.
	Temporal scale	2050.
	Ad hoc / ongoing process	Ad hoc – the report is apparently a one-off, although GFF carry out other foresight activities,
Methodology	Written by David A Smith (CEO of Global Futures and Foresight). No other information on the method is provided. The apparent method is one of desk based literature review and drafting mainly by the lead author. No further information is provided on the methodology.	
	Methodological Transparency	None provided.
	Additional information on the methodology N/a	
Stakeholders involved in the study development	**Approach to stakeholder involvement**	Analytical – a desk based literature review seems to be the main input to the report.
	Stakeholders involved	It is not clear if / how other stakeholders were involved.

Study 10

Title of megatrend study (year): Now for the Long Term The Report of the Oxford Martin Commission for Future Generations (2013)

References and contact information	The Oxford Martin Commission for Future Generations, Oxford Martin School; Oxford University, October 2013
	http://www.oxfordmartin.ox.ac.uk/downloads/commission/Oxford_Martin_Now_for_the_Long_Term.pdf
	No specific contacts are provided. General contact details: Email: info@oxfordmartin.ox.ac.uk / Web: http://www.oxfordmartin.ox.ac.uk/

Organisations involved	Initiator: commissioned / funded by whom?	Oxford Martin Commission for Future Generations which is part of the Oxford Martin School within the University of Oxford.
	Lead partner: developed by whom?	Oxford Martin Commission for Future Generations: http://www.oxfordmartin.ox.ac.uk/commission/people

Summary and key messages

Summary of the megatrend study and key messages

The study takes as a starting point the financial crisis and presents this as a time of significant turbulence that should inform societal responses to future crises. The study is intended to support this by looking forward at possible causes of future crises as well as considering the challenges to responding to these sort of events. The study is structured around three parts: possible futures, responsible futures and practical futures

The first part of the study sets out a number of megatrends that are grouped around 7 headings. The study takes this basis and then considers 5 categories of challenges that arise from these megatrends and that are felt to be likely to shape the future. These are:

- Society: How can growth and development be made more sustainable and inclusive?
- Resources: How can food, energy, water and biodiversity be made more secure?
- Health: How can public health infrastructure and processes respond to the needs of all?
- Geopolitics: How can power transitions be the basis for fresh forms of collaboration?
- Governance: How can businesses, institutions and governments contribute to more inclusive and sustainable growth?

From this a number of possible responses are considered.

The second part of the study examines historical transformational changes and what factors have contributed to these. This informs 5 'shaping factors' that make positive change difficult to achieve:

- Institutions: Too many have struggled to adapt to today's hyper-connected world.
- Time: Short-termism directs political and business cycles, despite compelling exceptions.
- Political Engagement and Public Trust: Politics has not adapted to new methods or members.
- Growing Complexity: Problems can escalate much more rapidly than they can be solved.
- Cultural Biases: Globalisation can amplify cultural differences and exclude key voices.

The final part of the study introduces an 'agenda for the long term' arranged around 5 principles:

- Creative coalitions.
- Innovative, open and reinvigorated institutions.
- Revalue the future.
- Invest in younger generations.
- Establish a common platform for understanding.

Summary of the megatrends

The following are presented:

- Demographics (large, ageing populations).

- Mobility (urbanisation and a growing middle class).

- Society (inequality and unemployment).

- Geopolitics (power transitions).

- Sustainability (resource insecurity).

- Health (shifting burdens of disease).

- Technology (information and communications revolution).

Purpose and application	Objectives and target audience	Target audience is '*decision makers*' (p.6) but that is the extent of the targeting. The report also states that: Now for the Long Term aims to stimulate action and debate. Commissioners look forward to engaging with governments, businesses, NGOs and civil society in order to take these ideas and recommendations forward in the months and years ahead.
	Application area, users and uses in policy making	See Objectives and target audience. The study is very broad and is therefore presumably intended for wide use by a variety of users – in policy but also other areas.
Presentation / communication	How is the study presented / communicated, e.g. use of maps, charts, narratives etc.	The study is well presented focussing on using detailed narrative text. The first section uses multiple figures, tables and schematics to support the text. The second section is primarily narrative with some graphs. The final section is narrative alone.
	Language	English (but Executive Summary is available in English, Arabic, French, German, Portuguese and Spanish).
	Access and cost	Freely available via Oxford Martin School website.
Evaluation	Any in/formal evaluation of their use?	No.
	Success factors	n/a.
	Barriers to success?	n/a.
Description/ characteristics of megatrend study	Exploratory / normative	Both – the first section is exploratory with the latter two tending to increasingly use normative descriptions.
	Qualitative / quantitative	Both.
	Drivers considered	The terms drivers and megatrends are used interchangeably across the study.
	Number of megatrends	7.
	Thematic focus	Cross cutting.

	Specific Issue focus	Social, technological, economic, environmental and political aspects are considered.
	Integration of environment / society / economy	Cross-cutting: the environment (sustainability) is considered as one of the key megatrends, though this focusses specifically on resource scarcity / security. Climate change and energy are also considered.
	Spatial scale	Global.
	Temporal scale	No specific time frame is set, although many outlook indicators used in the study relate to the period to 2050.
	Ad hoc / ongoing process	The report is presented as a one off but the work of the Commission is ongoing.
Methodology	Limited information is provided although reference is made to a number of workshops and events that were part of the 'knowledge-gathering process' (these are listed in the acknowledgements section of the report). The report is described as being the product of a year-long process of research and debate undertaken by a group of eminent leaders on the successes and failures in addressing global challenges over recent decades.	
	Methodological Transparency	Limited information provided.
	Additional information on the methodology N/a	
Stakeholders involved in the study development	Approach to stakeholder involvement	Mixture of participative and analytical. The report is based on research and deliberation, and a large number of experts are identified in the acknowledgments as contributing through meetings, workshops and review.
	Stakeholders involved	Beyond the Commission a large number of stakeholders from academia, media, business and government are referred to.

Study 11

Title of megatrend study (year): Future State 2030		
References and contact information	KPMG international – government sector (2014) http://www.kpmg.com/Global/en/IssuesAndInsights/ArticlesPublications/future-state-government/Pages/future-state-2030.aspx	
Organisations involved	Initiator: commissioned / funded by whom?	KPMG International initiated the study.

	Lead partner: developed by whom?	The Mowat Centre which is located at the School of Public Policy and Governance at the University of Toronto were commissioned by KPMG to complete the research / reporting.

Summary and key messages

Summary of the megatrend study and key messages

The study includes a short introduction followed by a reasonably detailed examination of 9 global megatrends. There is also a short concluding section that asks and answers the questions: '*what governments need to change?*' and '*how governments need to change?*'. These two questions is also asked and answered at the end of each megatrend section.

Summary of the megatrends

The following megatrends are presented:

- Demographics
- Rise of the individual
- Enabling technology
- Economic interconnectedness
- Public debt
- Economic power shift
- Climate change
- Resource stress
- Urbanization

There is a 1 page appendix which includes a '*view on security*' this was considered as a 10th global megatrend but not included because '*it is evergreen, a constant force that governments must contend with*' (p.10) but KPMG felt the need to include it as a separate appendix.

Purpose and application	Objectives and target audience	The report is considered as 'the first in a series of important conversations that we want to have with government organizations over the next few years'. Although not stated the study seems intended to spark debate, but also interest in KPMG services – readers are invited to contact their local KPMG office.
	Application area, users and uses in policy making	Government and the public sector. The study's webpage and the study is tagged as being relevant to the 'Government & Public Sector'. The report refers to the study having 'implications for national governments and public sector policy makers'.
Presentation / communication	How is the study presented / communicated, e.g. use of maps, charts, narratives etc.	The study uses a large number of pictures and other visual devices (such as maps, schematics, infographics, tables) to support the relatively concise narrative.
	Language	English.
	Access and cost	Freely available via website.

Evaluation	**Any in/formal evaluation of their use?**	No.
	Success factors	n/a.
	Barriers to success?	n/a.
Description/ characteristics of megatrend study	**Exploratory / normative**	Exploratory.
	Qualitative / quantitative	Predominantly qualitative analysis, supported by some data / quantitative indicators.
	Drivers considered	Drivers are mentioned within the narrative but there is no systematic presentation of drivers.
	Number of megatrends	Nine (9)
	Thematic focus	Social, technological, economic, environmental and political aspects are considered.
	Specific Issue focus	The focus is on the implications for governments / government policy of global changes.
	Integration of environment / society / economy	Climate change and resource-stress are considered as megatrends. The environment is also considered in other trends, but is mainly considered as a risk factor. The 'physical environment' is identified as one of three groupings of trends (the others being 'individuals' and the 'global economy')
	Spatial scale	Global.
	Temporal scale	2030.
	Ad hoc / ongoing process	The website indicates that '*Future State 2030 is the first in a series of important conversations that we want to have with government organizations over the next few years*'. In 2012 KPMG published 'Expect the Unexpected: Building Business value in a changing world' and although there is no explicit link they can be assumed to be related.
Methodology	No methodological information is provided but the acknowledgement section thanks a number of interviewees.	
	Methodological Transparency	None.
	Additional information on the methodology N/a	
	Approach to stakeholder involvement	Mainly analytical, although interviews were undertaken as part of the research.

Stakeholders involved in the study development	Stakeholders involved	A list of interviewees is included on page 67, which includes representatives from: national governments; international organisations (e.g. World Bank); academic institutes; and a number of senior KPMG staff.

Study 12

Title of megatrend study (year):		
Global Trends 2030: Citizens in an Interconnected and Polycentric World		
References and contact information	EU ISS (Institute of Security Studies) and ESPAS (2012)	
	http://europa.eu/espas/pdf/espas_report_ii_01_en.pdf	
	Álvaro de Vasconcelos (Director, ESPAS and EU ISS) was the editor.	
	No specific contact details are provided, but the report includes contact information for the EU ISS:	
	info@iss.europa.eu	
	The ESPAS website is: http://europa.eu/espas/index_en.htm	
Organisations involved	**Initiator: commissioned / funded by whom?**	European Strategy and Policy Analysis System (ESPAS) funded the project / prepared for the Bureau of European Policy Advisers of the European Commission (BEPA)
	Lead partner: developed by whom?	ESPAS (through its 'inter-institutional task force') commissioned the European Union Institute for Security Studies (EUISS) to undertake the study.
Summary and key messages		
Summary of the megatrend study and key messages		

The report is a detailed description of a large numbers of global trends which it identifies as being likely to shape the world in 2030.

The Foreword presents the following three higher level trends:

- *'The empowerment of the individual, which may contribute to a growing sense of belonging to a single human community*

- *Greater stress on sustainable development against a backdrop of greater resource scarcity and persistent poverty, compounded by the consequences of climate change*

- *The emergence of a more polycentric world characterised by a shift of power away from states, and growing governance gaps as the mechanisms for inter-state relations fail to respond adequately to global public demands.'*

Summary of the megatrends

There are three main parts to the study but within these there are two levels of analysis – one that corresponds with and can be considered megatrends and a second tire which is lower in the hierarchy and more akin to trends or sub-trends.

The megatrends (the report uses the term 'major trends' identified are:

- The empowerment of individuals: key drivers
- Converging values and demands, but risks of extremism
- Demands for political participation but dangers of populism
- A rising middle class but persistent poverty and inequality
- Climate change and scarcities: the challenges to human development
- Human security: protecting citizens
- A power shift to Asia but greater uncertainty
- Diffusion of power but dangers of fragmentation
- Global initiatives but a governance gap

Purpose and application	Objectives and target audience	The target audience is EU policy makers and EC institutions. The report seeks to *'map major, existing trends that are likely to shape the future and must be taken into account by the European Union in its attempt to define coherent strategic options for the next governance cycle'.*
	Application area, users and uses in policy making	The study was developed as part of the ESPAS initiative which aims to develop cooperation through common strategic thinking on the long-term trends and policy challenges likely to face Europe over the next institutional cycle (2014–19) and beyond.
Presentation / communication	How is the study presented / communicated, e.g. use of maps, charts, narratives etc.	Detailed narrative text with statistics integrated. This is supported by figures, tables and graphs.
	Language	English.
	Access and cost	Freely available online as a PDF download.
Evaluation	Any in/formal evaluation of their use?	No.
	Success factors	n/a.
	Barriers to success?	n/a.
Description/ characteristics of megatrend study	Exploratory / normative	Exploratory. The report looks at existing and emerging long-term trends and identifies the threats and opportunities for Europe and implications and options for EU policy.
	Qualitative / quantitative	Both. It is largely a qualitative report, with narrative supported by data / indicators.

	Drivers considered	Although frequent mention of driver is made across the study and specific drivers are identified for some of the major trends (e.g. The empowerment of individuals; and Diffusion of power but dangers of fragmentation) there is no systematic presentation of drivers.
	Number of megatrends	Nine (9) 'major trends' are identified.
	Thematic focus	The report considers all STEEP themes, however the overall focus is on the implications of major trends on society (citizens) and for policy.
	Specific Issue focus	See Thematic focus.
	Integration of environment / society / economy	The report is broadly focussed on social and economic trends, but includes a major trend related to 'Human development, but inequality, climate change and scarcity', which considers the implications of resource use and scarcity and climate change. Water scarcity and energy are also considered.
	Spatial scale	Global, with implications for Europe.
	Temporal scale	2030.
	Ad hoc / ongoing process	The report is part of an ongoing initiative under the ESPAS inter-institutional taskforce. Further reports in specific areas have been developed and are under development.
Methodology	The report has been developed by EU ISS as part of the work of ESPAS. The report is the outcome of the initial two year a pilot project which had the aim of exploring the possibility of establishing 'an inter-institutional system identifying long-term trends on major policy issues facing the EU'. Although it is not clear which methods were used directly in generating the report, the report includes a section on the 'ESPAS methodology' which identifies four methodological components: The preparation of preliminary findings and reporting which included research based review and assessment of existing literature forecasting global trends. The interim product resulted in twelve research papers, and an annotated list of the main challenges and problems identified by the experts. This was in turn developed into a report on the preliminary ESPAS findings which was produced after an intensive two-day discussion among the project experts and a peer reviewer. Following this the final report was developed based on input and discussion of the preliminary findings at: - Regional conferences - Side events (at the regional conferences) - Final conference - Focus groups (it is not clear how these input into the report)	
	Methodological Transparency	There is a section of the report setting out the 'ESPAS methodology'.
	Additional information on the methodology N/a	

Stakeholders involved in the study development	Approach to stakeholder involvement	Participative.
	Stakeholders involved	A very large number. Page 11 of the study indicates that: *'The ESPAS team systematically sought the close involvement of experts and think tanks from outside Europe, namely from the United States, Brazil, China, India and Russia, but also from Africa, the Arab world and Turkey. ESPAS used a mix of in house and contract-based expertise, and fully exploited the expertise of EU institutions in the areas under study. Brainstorming and review workshops drawing from a broader pool of expertise, and involving practitioners from EU institutions and the EEAS where appropriate, have also contributed to completing and scrutinising research and data-collection finding'.*

Study 13

Title of megatrend study (year):		
Europe's Societal Challenges - an analysis of global societal trends to 2030 and their impacts on the EU		
References and contact information	http://europa.eu/espas/pdf/espas-report-societal-trends.pdf RAND Europe / ESPAS, 2013 Authors: Stijn Hoorens, Jeremy J. Ghez, Benoit Guerin, Daniel Schweppenstedde, Tess Hellgren, Veronika Horvath, Marlon Graf, Barbara Janta, Samuel Drabble, Svitlana Kobzar Prepared by RAND Europe, contact Stijn Hoorens (hoorens@rand.org)	
Organisations involved	**Initiator: commissioned / funded by whom?**	The study / report was commissioned by the Bureau of European Policy Advisors (BEPA) on behalf of the European Strategy and Policy Analysis System (ESPAS) task force.
	Lead partner: developed by whom?	RAND Europe
Summary and key messages		
Summary of the megatrend study and key messages The report presents a series of identified trends related to the rise of a new global middle class, a growing and ageing population, employment and the changing labour market, evolving patterns and impacts of migration, connected societies and individual empowerment. Many of these trends are uncertain and their very direction and magnitude depend on the future course of exogenous drivers beyond the control of decision makers. The report also considers the various types of consequences for the European Union's long-term landscape of the societal trends identified.		

Summary of the megatrends

The following 'observable trends' are presented:

- The rise of the global middle class
- A growing and ageing population
- Employment and the changing labour market
- Evolving patterns and impacts of migration
- Connected societies, empowered individuals

The consequences for the EU have been grouped under four topics:

- rising inequality and more vulnerable groups
- the consequences of a new global consumer class
- adapting to a new demographic reality
- opportunities for individual empowerment but risks of a divide.

Purpose and application	Objectives and target audience	The study seeks to investigate societal changes that will affect Europe until 2030. The target audience is EU policy makers and EC institutions.
		The report was commissioned by the Bureau of European Policy Advisors (BEPA) on behalf of the ESPAS Task Force:
		The task force is made up of: the European Parliament, the General Secretariat of the Council of the European Union, the Bureau of European Policy Advisers (BEPA) of the European Commission and the European External Action Service (EEAS).
		Beyond those involved in ESPAS, the report *'may be of interest to a much broader audience of decision makers, researchers and stakeholders interested in the societal challenges that the EU may be facing in the coming years.'*
	Application area, users and uses in policy making	The study was developed as part of the ESPAS initiative which aims to develop cooperation through common strategic thinking on the long-term trends and policy challenges likely to face Europe over the next institutional cycle (2014–19) and beyond.
Presentation / communication	How is the study presented / communicated, e.g. use of maps, charts, narratives etc.	The study is presented as a narrative report (PDF), with data and quantitative analysis presented as figures incorporated in the text.
	Language	English
	Access and cost	Freely available from the ESPAS website
Evaluation	Any in/formal evaluation of their use?	None
	Success factors	N/a
	Barriers to success?	N/a

Description/ characteristics of megatrend study	**Exploratory / normative**	Exploratory
	Qualitative / quantitative	Both, though largely qualitative
	Drivers considered	The following cross-cutting drivers are considered: • People & behaviour • Gender equality • Demographic change • Urbanisation • Technology & media • Economic growth & recovery • Barriers to connectedness
	Number of megatrends	Five (5)
	Thematic focus	Social / societal change is the main theme covered Study also considers policy / governance implications
	Specific Issue focus	Implications of societal change for Europe and European policy
	Integration of environment / society / economy	Focus is on society, economic factors are considered in this context. Environment only considered as a factor in social context (e.g. climate change leading to conflict / migration)
	Spatial scale	Global, with implications for Europe
	Temporal scale	2030 (though some indicators presented extent to 2050)
	Ad hoc / ongoing process	The study is a one-off, however ESPAS is an ongoing process
Methodology	The findings presented in this report are based on two main phases of research: 1) analysis of the available literature and data; and 2) expert consultation through an online Delphi exercise and in-depth interviews.	
	Methodological Transparency	Transparent: an overview of the method is included in the report introduction, including the 'analytical framework' and 'approach and methodology'.
	Additional information on the methodology The report is based on a review of the available data and literature on societal trends in a number of thematic areas. It also builds on inputs harnessed through an online Delphi exercise involving more than 200 international experts, as well as a series of 29 semi-structured interviews, involving experts from academia and think tanks, policymakers, and leading thinkers from the private or third sector. An expert seminar was also held to present and discuss preliminary results.	
Stakeholders involved in the study development	**Approach to stakeholder involvement**	Both analytical with participative input (see Methodology information), including online Delphi exercise, interviews and a seminar.

	Stakeholders involved	A large number of experts were involved (in total 412 were involved in the first Delphi round; 29 experts were interviewed; and more than 60 stakeholders participated in the preliminary results seminar).
		Appendix A of the report gives a list of experts, policymakers and stakeholders who contributed.

Study 14

Title of megatrend study (year):		
The Global Economy in 2030: Trends and Strategies for Europe (2013)		
References and contact information	Centre for European Policy Studies (CEPS) (2013), Edited by Daniel Gros and Cinzia Alcidi (CEPS)	
	http://europa.eu/espas/pdf/espas-report-economy.pdf	
	No specific contacts provided. The ESPAS website is: http://europa.eu/espas/index_en.htm	
Organisations involved	Initiator: commissioned / funded by whom?	The study / report was commissioned by the Bureau of European Policy Advisors (BEPA) on behalf of the European Strategy and Policy Analysis System (ESPAS) task force.
	Lead partner: developed by whom?	Centre for European Policy Studies (CEPS).
		Significant contributions were also made by CIREM (Centre International de Recherches et d'Etudes Monétaires), ISIS (Institute of Studies for the Integration of Systems) and SEURECO (Société EURopéenne d'ECOnomie) teams.
Summary and key messages		
Summary of the megatrend study and key messages		

The study consists of four parts.

Part 1 sets out the main global trends, it described as being quite technical aiming to provide an analytical background for the rest of the report.

Part 2 is a 'snapshot' of the global economy in 2030 setting out the most likely evolution of the trends set out in the Part 1.

Part 3 describes how Europe's may transition from where it is currently to the economy envisaged in 2030.

Part 4 discusses the policy challenges that arise from this view of the future direction of the world.

Summary of the megatrends

Megatrends are not specifically identified, however the following 'global drivers of growth' are set out:

- Population and human capital
- Capital and capital markets
- Globalisation
- Technology and innovation
- Natural resources: energy and metals.

Purpose and application	Objectives and target audience	The target audience is EU policy makers and EC institutions.
		The aim is to '*produc[e] a reference scenario for the global economy and for Europe in 2030*'.
		The study builds on previous studies undertaken by or commissioned by ESPAS.
	Application area, users and uses in policy making	As part of the ESPAS initiative the study is seeking to contribute to identifying and analysing the key trends and challenges, and the resulting policy choices, which are likely to confront Europe and the wider world in the decades ahead.
Presentation / communication	How is the study presented / communicated, e.g. use of maps, charts, narratives etc.	The study is mainly narrative supported by statistics and a number of maps, graphs and tables.
	Language	English.
	Access and cost	Freely available via the ESPAS website.
Evaluation	Any in/formal evaluation of their use?	No.
	Success factors	n/a.
	Barriers to success?	n/a.
Description/ characteristics of megatrend study	Exploratory / normative	Mainly exploratory, however Part 3 (the EU transition towards 2030) is partially normative.
	Qualitative / quantitative	Both. Much of the narrative and analysis is qualitative, however elements of the report are based on outcomes of detailed quantitative modelling (using a model known as NEMESIS).
	Drivers considered	Part 1 of the report is structured around 'global drivers of growth'. These are listed under Summary of megatrends above.
	Number of megatrends	The study does not identify megatrends, rather collected 'global drivers'. Four (4) global drivers for growth are identified.
	Thematic focus	Primarily economic but social, political and technological aspects are also considered. Environmental aspects are considered but are more marginal.
	Specific Issue focus	The main focus is on economic growth.
	Integration of environment / society / economy	Primarily economic and social with limited integration of the environment.
	Spatial scale	Global but with a focus on Europe, especially in the latter sections.
	Temporal scale	Up to 2030.

	Ad hoc / ongoing process	The study is a one-off, however ESPAS is an ongoing process.
Methodology	CEPS worked with numerous other organisations including CIREM (Centre International de Recherches et d'Etudes Monétaires), ISIS (Institute of Studies for the Integration of Systems) and SEURECO (Société EURopéenne d'ECOnomie). The report builds on extensive analytical research, a wide-ranging review of the literature and simulations with two macro-economic models, one of global scale and one for the EU, providing new perspectives on issues relevant for today's policy debate. The approach is primarily quantitative with the analysis based on the findings of three large-scale models. The first two – MaGE (Macroeconomic General Equilibrium) and MIRAGE (Modelling International Relationships in Applied General Equilibrium) – are of global scale and the last one, NEMESIS, focuses on Europe. The report also notes that it benefitted from the views of academic, policy and industry experts who participated in three special workshops held over the course of this research project	
	Methodological Transparency	Information on the modelling and its outcomes is presented in the report. An outline of other methodological approaches is included.
	Additional information on the methodology N/a	
Stakeholders involved in the study development	Approach to stakeholder involvement	Mainly analytical, although three stakeholder workshops were also held.
	Stakeholders involved	Academic, policy and industry experts – although specific details are not provided.

Study 15

Title of megatrend study (year): Empowering Europe's Future: Governance, Power and Options for the EU in a Changing World		
References and contact information	Chatham House and FRIDE (European Think-Tank for Global Action) (2013) for the ESPAS task force. http://europa.eu/espas/pdf/espas-report-governance-power.pdf Authors: Giovanni Grevi, Daniel Keohane, Bernice Lee, Patricia Lewis	
Organisations involved	Initiator: commissioned / funded by whom?	The study / report was commissioned by the Bureau of European Policy Advisors (BEPA) on behalf of the European Strategy and Policy Analysis System (ESPAS) task force.
	Lead partner: developed by whom?	Chatham House and FRIDE
Summary and key messages		

Summary of the megatrend study and key messages

The study explores global trends to 2030 relating to governance, power and political change, and considers the implications and options for Europe. The analysis considers trends related to shifts in global / regional powers, risks and trends related to conflict and vulnerability, changing power relations and politics and global trends and challenges related to competition, cooperation and governance.

The implications and options for the EU (for the period 2014 – 2019) are also considered, including the need to build new partnerships, the need to promote European businesses in global markets, the importance of climate and energy security and resources, conflict prevention and security, and the need for science and technological innovation.

Europe and its' options are also considered within its 'strategic neighbourhood':

- Southern neighbourhood: the Middle East and North Africa; West Africa and the Sahel.

- Eastern neighbourhood: Eastern Europe; Central Asia.

Summary of the megatrends

Distinct 'megatrends' are not presented in the report, however the report is structured under the following thematic chapters:

- Interdependence, Complexity and Shifting Power

- Conflict and Vulnerability

- Power and Powers

- Competition, Cooperation and Governance

The implications and options for the EU are considered relating to:

- The 'super-partner' approach

- Making global markets work

- Securing clean and sustainable energy resources

- Preventing conflict and supporting cooperative security

- Becoming a science and technology powerhouse and fostering innovation

Purpose and application	Objectives and target audience	The objective of the study is not stated, however its implied objective is to identify current and emerging trends in global and regional governance and geo-politics and examine the implications for and options of the EU in response.
		The report was commissioned by the ESPAS Task Force, under strand 3 – Governance and Power – of the ESPAS programme.
		The task force is made up of: the European Parliament, the General Secretariat of the Council of the European Union, the Bureau of European Policy Advisers (BEPA) of the European Commission and the European External Action Service (EEAS).
		The expected audience is not stated, however other ESPAS reports in this series state that the main audience are the members of ESPAS, but that they *'may be of interest to a much broader audience of decision makers, researchers and stakeholders interested in the societal challenges that the EU may be facing in the coming years.'*
	Application area, users and uses in policy making	The study was developed as part of the ESPAS initiative which aims to develop cooperation through common strategic thinking on the long-term trends and policy challenges likely to face Europe over the next institutional cycle (2014–19) and beyond.

Presentation / communication	How is the study presented / communicated, e.g. use of maps, charts, narratives etc.	The study is presented as a narrative report (PDF), with data and quantitative analysis presented as figures incorporated in the text.
	Language	English
	Access and cost	Freely available from the ESPAS website
Evaluation	Any in/formal evaluation of their use?	None
	Success factors	N/a
	Barriers to success?	N/a
Description/ characteristics of megatrend study	Exploratory / normative	Exploratory, although there is a normative aspect of the report in considering options for the EU, based on the normative aim of maintaining / enhancing the EU's position in a global context
	Qualitative / quantitative	Mainly qualitative, although the analysis is supported by quantitative data / indicators.
	Drivers considered	Drivers are not explicitly identified in the analysis.
	Number of megatrends	See Summary of the megatrends. The analysis is presented in four (4) thematic chapters.
	Thematic focus	The main focus is political and governance trends, although economic and social elements are also considered.
		The environment is considered as a factor in social and political change, e.g. environmental pressures bringing 'new risks and uncertainties to the international order'.
	Specific Issue focus	Global governance and power trends, and the implications / options for Europe
	Integration of environment / society / economy	See thematic focus.
	Spatial scale	Global, with implications for Europe
	Temporal scale	2030, although some indicators show outlooks to 2050.
		Implications for Europe refer to the period 2014 – 2019
	Ad hoc / ongoing process	The study is a one-off, however ESPAS is an ongoing process

Methodology	The report was developed through a combination of an in-depth literature review, a survey of expert opinion, and a series of thematic seminars and workshops with stakeholders / experts.	
	A review panel provided quality assurance and expert input to the reporting and research.	
	Methodological Transparency	The preface to the report provides an overview of the method used. The survey of expert opinion is included as an appendix to the study, as well as a timeline of activities in the development of the report.
		The background, areas of expertise / interest and number of experts consulted through the survey is not identified in the report.
	Additional information on the methodology	
	Broadly the methodology followed the following steps, which were 'mutually reinforcing':	
	- Literature review - Fiver seminars (in Brussels). Three focussed on specific cross-cutting issues (Sources of Power, Changing Nature of Security, Features or 21st Century Governance), and the other two were used to discuss interim and final draft reports. - A survey of international expert opinion. - Testing and input by a Review Panel. - Three workshops: Berlin, London and Paris.	
Stakeholders involved in the study development	**Approach to stakeholder involvement**	A combination of analytical and participative. The report is based on a review of literature, but also expert input and participation (see Methodology)
	Stakeholders involved	ESPAS Working Group 3 (Governance and Power), and the ESPAS Task Force.
		The members of the Review Panel were Cho Khong (Shell), Ivan Krastev (Centre for Liberal Strategies), Anne-Marie Slaughter (New America Foundation and Princeton University) and Constanze Stelzenmueller (The German Marshall Fund of the United States).
		The survey of experts focussed on 'academics, analysts and policy-makers from a range of fields on issues relevant to the themes of the report'. The report notes that 'In total, 49 experts responded, after 125 were invited to reply'.