

UK-SSP Tables of Semi-quantitative Trends in 50 Socio-economic Variables

Table 1 present the definitions of the 50 socio-economic variables for which semi-quantitative trends have been developed. It also shows their mapping to the STEEP (Society, Technology, Economy & Lifestyle, Environment and Policy & Institutions) driver categories and the 14 driver categories that emerged from the online stakeholder workshop from May 2020 as being particularly important and uncertain for socio-economic development in the UK this century. Tables 2a to 2e presents the semi-quantitative trends in symbol and graphical form, with a rationale for each trend.

The UK-SSP User Manual presents the methodology and quality assurance for creating the semiquantitative trends.

Table 1: Definitions and mapping of the 50 socio-economic variables for which semiquantitative trends have been determined for each UK-SSP scenario.

Nr	Variable	Definition	STEEP categorisation of variables	Primary related UK driver category	Secondary related UK driver categories
1	Population	Population level based on IIASA SSP population projections (model IIASA-WiC POP)	Society	Demography	Economic development, Social structure
2	Ageing	Proportion of citizens >65 based on IIASA SSP population projections (model IIASA-WiC POP)	Society	Demography	Health, Economic development, Social structure
3	Physical mobility	Level of physical intra-national mobility, transport and accessibility	Society	Transport	Technology, Energy
4	Public transport	Percentage of transport that is public	Society	Transport	UK/DA Policy & Governance, Public attitudes
5	Migration	Level of international mobility	Society	Demography	UK/DA Policy & Governance, International relations
6	Social mobility	Level of mobility between social and wealth classes	Society	Social structure	Economic development, Public attitudes
7	Urban population	Percentage of the overall population living in cities	Society	Demography	Social structure, Public attitudes
8	Urbanisation	Extent of urbanized area	Society	Demography	Social structure, UK/DA Policy & Governance
9	Education	Level of multiple types of investments in education (money, time, etc.) from all kinds of sources (individual, public, private)	Society	Education	UK/DA Policy & Governance, Public attitudes
10	Health investments	Level of multiple types of investments in health care (money, time, etc.) from all kinds of sources (individual, public, private)	Society	Health	UK/DA Policy & Governance, Public attitudes
11	Health care	Availability of health service per capita	Society	Health	Economic development, Social structure
12	Social cohesion	Level of collaboration and solidarity in the society	Society	Public attitudes	Response to global shocks, Social structure

Nr	Variable	Definition	STEEP categorisation of variables	Primary related UK driver category	Secondary related UK driver categories
13	Human capital	The health, knowledge, skills and motivation of a country's population emotional and spiritual capacities. It broadly covers areas of education, job experience, skills and health. For example, a population that enjoys overall high levels of education, and low rates of unemployment is considered of high human capital	Society	Education	Health
14	Social capital	The structures, institutions, networks and relationships of a country's population that enable individuals to maintain and develop their human capital in partnership with others, and to be more productive when working together than in isolation. It refers to the networks and social relations of people, including families, communities, businesses, trade unions, voluntary organizations, legal/political systems and educational and health institutions (both informal and formal relationships).	Society	Social structure	Public attitudes, UK/DA Policy & Governance
15	Technological development	Speed of technological development	Technology	Technology	Economic development, UK/DA Policy & Governance, Education, Response to global shocks
16	Green technology	Proportion of green technologies in technological development	Technology	Technology	UK/DA Policy & Governance, Public attitudes
17	Tech transfer	Intensity of exchange of technologies and know-how between countries and sectors	Technology	Technology	International relations, UK/DA Policy & Governance
18	Diffusion of tech across society	Intensity of diffusion and utilisation of technologies across different segments of the society	Technology	Technology	Social structure, Public attitudes, Education, Demography
19	Infrastructure	Public spending on infrastructure relative to the size of the economy	Technology	Technology	Transport, UK/DA Policy & Governance
20	Renewables	Share of renewables within the total energy mix	Technology	Energy	Technology, UK/DA Policy & Governance, Natural resources, International relations

Nr	Variable	Definition	STEEP categorisation of variables	Primary related UK driver category	Secondary related UK driver categories
21	Bioenergy	Share of bioenergy within the total energy mix	Technology	Energy	Natural resources, UK/DA Policy & Governance, International relations
22	Energy efficiency	Reduction in the amount of energy required per unit of goods and services produced, through improvements in technology in manufacturing and waste elimination	Technology	Energy	Technology, Public attitudes
23	Water abstraction change	Level of abstraction of freshwater from surface and underground sources	Technology	Natural resources	Economic development, UK/DA Policy & Governance, Technology
24	R&D	Spending on R&D relative to the size of the economy	Technology	Technology	Education, Public attitudes, Economic development, UK/DA Policy & Governance
25	Manufactured capital	Material goods, tools, machines, buildings and other forms of infrastructures - that contribute to the production process but do not become embodied in its output. Manufactured capital can be created by building dams, water pipelines, sea-walls, hospitals, roads, etc.	Technology	Technology	Energy, Transport
26	Protected areas	Spatial extent of protected areas	Environment	UK/DA Policy & Governance	Natural resources, Public attitudes
27	Land use regulation	Level of regulation related to land use change	Environment	UK/DA Policy & Governance	Natural resources, Food
28	R&D effects on agricultural yields	Changes in agricultural yields due to R&D such as crop breeding, agronomy, etc.	Environment	Technology	Food
29	Agriculture area	Area of agricultural land	Environment	Food	Technology, Economic development
30	Fertiliser use	Amount of fertilizer inputs in agricultural production	Environment	Food	Technology
31	Natural capital	Any stock or flow of energy and matter that yields valuable goods and services. This includes resources, some of which are renewable (e.g. timber, grain) and others that are not (e.g. fossil fuels). Natural capital also includes sinks that absorb, neutralise or recycle waste.	Environment	Natural resources	Energy, Food

Nr	Variable	Definition	STEEP categorisation of variables	Primary related UK driver category	Secondary related UK driver categories
32	GDP	Gross Domestic Product based on IIASA projections (model IIASA GDP)	Economy & Lifestyle	Economic development	
33	Household income per capita	Gross disposable household income per capita	Economy & Lifestyle	Economic development	Social structure, Demography
34	Tourism	Share of the tourism sector in economic activity	Economy & Lifestyle	Economic development	Social structure, Demography
35	Industry	Share of the industry sector in economic activity	Economy & Lifestyle	Economic development	Technology, Transport
36	Funding transfers	Transfer of public money from England to other UK countries	Economy & Lifestyle	Economic development	UK/DA Policy & Governance, Public attitudes
37	Inequality	Level of income inequality	Economy & Lifestyle	Economic development	Social structure
38	Consumption level	Overall consumption of resources, goods, energy, etc.	Economy & Lifestyle	Public attitudes	Economic development, Food, Energy, Natural resources
39	Consumption source/ proximity	Consumption of local food and products	Economy & Lifestyle	Public attitudes	International relations, Food
40	Meat consumption	Meat consumption per person	Economy & Lifestyle	Food	Public attitudes, Health
41	Resource and food waste	The amount of resources and food wasted along the whole supply chain	Economy & Lifestyle	Natural resources	Food, Public attitudes, Technology
42	Financial capital	Enables other forms of capitals to be owned and traded but has no intrinsic value – its value is purely the ability to secure services of natural, human, social or manufactured capital.	Economy & Lifestyle	Economic development	
43	Imports of natural resources	Volume of imports of natural resources (food, timber, minerals, etc.)	Policies & Institutions	Economic development	International relations, Response to global shocks
44	Globalisation of trade	Total value of international imports and exports	Policies & Institutions	Economic development	International relations, Response to global shocks
45	International cooperation	Strength of agreements and intensity of collaboration	Policies & Institutions	International relations	Response to global shocks
46	Environmental policy	Strictness of environmental laws and regulation	Policies & Institutions	UK/DA Policy & Governance	Public attitudes
47	Effectiveness of institutions	Level of stability and functioning of formal institutions	Policies & Institutions	UK/DA Policy & Governance	Public attitudes
48	Participation in governance	Degree of multi-level participation in governance - level of the involvement of all parts of the society in decision-making processes	Policies & Institutions	UK/DA Policy & Governance	Public attitudes, Social structure

Nr	Variable	Definition	STEEP categorisation of variables	Primary related UK driver category	Secondary related UK driver categories
49	Devolution and decentralisation of decision- making	Level of devolution and decentralisation of decision-making to sub-national levels (below the UK level)	Policies & Institutions	UK/DA Policy & Governance	Public attitudes, Economic development
50	Public awareness and engagement	The level of public awareness of health-related, environmental and sustainability issues	Policies & Institutions	Public attitudes	UK/DA Policy & Governance, Health, Education, Natural resources

Nr	Variable and definition	UK-SSP1				UK-SSP2			UK-SSP3			UK-SSP4			UK-SSP5	
		present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100
1	Population	0	+	+	0	+	+	0	-		0	0	-	+	++	+++
	Population level based on IIASA SSP population projections (model IIASA-WiC POP)	Trends ac populatio	cording to n projectio	¹⁰ 2114 IIASA SSP INS.	Trends acc	cording to n projectio	TIASA SSP ons.	Trends ac populatio	cording to n projectio	IIASA SSP ons.	Trends ac populatio	cording to n projectio	IIASA SSP ons.	Trends ac populatio	cording to n projectic	IIASA SSP
2	Ageing	+	++	++	+	+	++	+	+	+	+	+	++	+	++	+++
	Proportion of citizens >65 based on IIASA SSP population projections (model IIASA-WiC POP)	Trends ac populatio	cording to n projectic	10 2110 IIASA SSP ons.	Trends acc	cording to n projectio	IIASA SSP	Trends ac populatio	2044 28 cording to n projectio	IIASA SSP Dns.	Trends ac populatio	cording to n projectio	IIASA SSP Dns.	Trends ac populatio	cording to n projectic	TIASA SSP
3	Physical mobility	0	-	-	+	+	+	+	++	++	++	0	-	+	++	+++
3	Level of physical intra- national mobility,	Increasing		70 2160 d	Public-priv	vate partn	ro 2199 erships	People m	2848 20 igrate to re	2170 2188 egions	First, tech	developm	nent in	Developm	2848 27 nent of	70 2188
	transport and accessibility	lifestyles.	,,	-	promoting in transpo	g tech devo	elopment	with jobs resources	and natura for subsis	al tence.	transport support e Then pola and the m areas with opportun	connectin con develo risation in najority rel n better jo ities.	g cities to opment. creases ocate to b	infrastruc to econon	ture is para nic growth	amount

Table 2a: Semi-quantitative trends in variables related to the Society category of the STEEP driver classification.

Nr	Variable and definition	UK-SSP1				UK-SSP2			UK-SSP3			UK-SSP4			UK-SSP5	
		present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100
4	Public transport	+	++	+++	+	++	++	-			+	-		+	+	+
		*** * 2020	2848 2X	270 2186	** 2020	2848 20	270 2980		2848 2	2198	*** * 2020	2940 2	270 2168	20080	2848 2	070 2488
	Percentage of transport that is public	Transport redesigne transport vehicles n	: infrastruc ed to favou . By 2100, io longer e	ture ir public private xist.	Increase i transport demand f as car use	n city-wide systems a or public t driven do	e nd ransport wn.	Cuts in tra gradual d and publi 2050s, th collapses	ansport se eterioratic c transpor e railway s	rvices and on of roads t. By system	Initially, H investme transport decrease	nigh public ents in gree t, then stro . Poor rely	n ng on cars.	Increase i transport but relati in private individua attitudes.	n all mode (public & vely greate transport listic publi	es of private), er increase due to c
5	Migration	0	-	-	0	0	0	-			0	0	0	+	++	++
		*** ** 2020 ***	2000 2	2198	2020	2848 2	2198		2840 2	1070 2168	2020	2548 2	270 <u>2486</u>	** 	2840 2	970 2988
	Level of international mobility	rel of international bility				ı level rem	ains	Immigrat internatio conflicts a	ion decrea onal tensio and border	uses due to ons, r closures.	Internation restricted Mobility decrease compens a (cheape workforc	onal mobili d to the elit for the mas s. But, this ated by ind er) internat e.	ity is ce. sses trend is creases in cional	Migratior restriction migrants.	ı is high, tł	nough with illed

Nr	Variable and definition	UK-SSP1				UK-SSP2			UK-SSP3			UK-SSP4			UK-SSP5	
		present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100
6	Social mobility	+	++	+++	-	-	-	-			-			+	++	+++
		*** • • • • •	2840 20	170 2188		2848 20	ro 2498		2848 201	r0 2100		2848 20	70 2188	*** • 2020	2848 20	r0 2100
	Level of mobility between social and wealth classes	Decreasin for social	g inequalit mobility.	ty allows	Slightly in prevents	creasing in social mob	equality ility.	Increasing rising pov movemer classes.	g inequality erty preve It between	y and nt n social	High ineq elite and	ualities be masses.	tween	Largely dr infrastruc plenty of and wealt mechanis	iven by ture devel job opport h redistrib ms.	opment, unities ution
7	Urban population	+	+	+	+	++	+++	+	++	+	+	++	+++	+	++	+++
			2546 20	170 <u>2488</u>	** 2020	2848 207	ro 2460	2020	1040 200	70 2100	*** * 2000	2848 20	70 2168	** * 2020	2848 20	ro 2460
	Percentage of the overall population living in cities	Initial incr attractive lifestyles l urbanisati	rease, then ness of rur palances o ion.	al ut	Increasing in growing cities.	g urban po g, centrally	pulation -planned	Urban are overpopu increases. scenario, rural subs	eas become lated, slum Later in th people rev istence life	e n housing ne vert to estyles.	High migr compete jobs.	ation to cir for ever de	ties to ecreasing	City-state combinec activities.	s and spra	wl, iomic

Nr	Variable and definition	UK-SSP1				UK-SSP2			UK-SSP3			UK-SSP4			UK-SSP5	
		present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100
8	Urbanisation	+	+	+	+	++	++	+	++	++	+	++	++	+	++	+++
		2020	2040 20	270 2198	44 2020	2848 28	2198	2020	2848 2	070 2198	2020	2848 28	270 2198	** 2020	2848 28	770 2186
	Extent of urbanised area	Green gro populated cities.	owth of de d, yet susta	nsely ainable	Increasing transport Strong ce planning.	g urbanisat infrastruc ntralised s City-state	tion along ture. patial s by 2100.	Increase i urban spr 2070 the to grow a populatic lifestyles.	in uncontra rawl and sl n urban ard s declining n living su	olled ums until eas cease g bsistence	Increase 2070 the to grow.	due to ghe n populatio	ttos to on ceases	Strong sp developm weak spa and high	rawled ient, result tial plannir population	ting from ng policy n increase.
9	Education	+	++	+++	+	+	+	-			+	-		++	++	+++
	Level of multiple types	tion + ++ ++		270 2196	2020	2840 2	2198		2849 2	070 2168	2020	2549 2	270 2168	2020	2848 22	2198
	of investments in education (money, time, etc.) from all kinds of sources (individual, public, private)	Education increasingly available to all due to decreasing inequalities and public and community investments.		Public-pri slightly in in educat increases educatior	vate partn crease invo ion. Basic i the availa n.	erships estments ncome bility of	Countries defence s of social, and publi spending	prioritise ector at th education, c infrastru	the ne expense , health cture	First stro STEM, th privatised only.	ng investm en educati d for elite a	ents in on ind skilled	Strong inv educatior and main taxation o levels.	vestments In from the tained thro on high inc	in beginning ough ome	

N	r Variable and definition		UK-SSP1			UK-SSP2			UK-SSP3			UK-SSP4			UK-SSP5	
		present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100
1) Health investments	+	++	+++	+	+	+	-			-			++	++	+++
	Level of multiple types	2020	2849 29	270 2188	4 2020	2849 2	070 2186		2848	20170 2188		2848 2	070 2188	*** * 2020	2849 2	070 2198
	of investments in health care (money, time, etc.) from all kinds of sources (individual, public, private)	Health ca available decreasin public an investme	re increasi to all due f ng inequalit d commun nts.	ngly to ties and ity	Public-pri slightly in in health	ivate partr icrease inv care.	erships estments	Countries defence s of social, and publi spending.	prioritise ector at th education c infrastru	the ne expense , health icture	Decline ir 2020s, wl healthcar privatised	n the NHS f hich contir re is gradua d for the el	from the nues as ally ite only.	Strong in healthcar beginning through t income le	vestments re from the g and main axation or evels.	in tained high
1	L Health care	+	++	++	-	0	0	-			-			+	++	++
		Health care + +-				2549	070 2199		2848 2	2070 2190		2849 2	070 2199	**	2849 2	070 2100
	Availability of health service per capita	The availability of health e per capita then remains stable as the overall health of the population improves and does not require more healt service capacities.			After the NHS, avai reaches c public-pri	initial colla ilability of original lev ivate inves	apse of healthcare els due to tments.	Countries defence s of social, and publi spending.	prioritise ector at th education c infrastru	the ne expense , health icture	Healthcar than edu with NHS 2020s. W 2060.	re is less pr cation inve declining elfare stat	rioritised estments, from e ends in	Strong in somewha investme populatic	crease, bu at slower tl nts, given n growth.	t han health very fast

Nr	Variable and definition	UK-SSP1				UK-SSP2			UK-SSP3			UK-SSP4			UK-SSP5	
		present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100
12	Social cohesion	+	++	+++	+	+	+	-						0	-	-
		*** • 2030	2848 20	TO 2100	*** * 2020	2848 20	170 2400		2848 20	10 2188		2848 20	170 2100	*** * * * * *	2011 20	70 2966
13	Level of collaboration and solidarity in society	A self-reir loop of gr collaborat	nforcing fea owing equ tion and sc	edback ality, lidarity.	A slightly social coh the adopt	increasing esion resu ion of basi	level of Iting from ic income.	Societal c deteriora struggles over.	ohesion tes as conf over resou	licts and Irces take	Strong co increased lack of op	mpetition l individual portunitie:	fuelled by ism and s.	Slightly lo as society individual	wer social is driven b istic lifesty	cohesion yy more les.
13	Human capital	++	+++	+++	-	+	+	-			+	-		+	++	++
		2020	2848 20	r0 2100		2841 20	170 2199		2849 20	170 2188	**	2848 20	170 2188	**	2848 20	70 2496
	The health, knowledge, skills and motivation of a country's population emotional and spiritual capacities (covering areas of education, job experience, skills and health).			mproves e, gaged cision- styles Ith level.	Collapse of healthcar their acce 2040. Afto systems a private pa Together they grad improved	of pension e systems essibility an erwards, th re rebuilt l artnerships with basic ually lead t life standa	and decrease ound hese by public- s. income, to ards.	Rather qu life stands educatior Increasing shortages pollution	iick deteric ards, incluc and healt g conflicts, s, environm and diseas	pration of ding jobs, hcare. food hental e spread.	First a slig investme education due to les education services. worsenin vast majo	ght increase nts, particu n. Then det ss access to n and healt Overall, dra g lifestyles prity.	e in ularly in cerioration b h astically for the	Large inve and educa access, co greater jo from stro developm	estments ir ation with ombined wi b opportui ng econom ient.	health improved ith nities nic

Nr V	Variable and definition		UK-SSP1			UK-SSP2			UK-SSP3			UK-SSP4			UK-SSP5	
		present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100
14 9	Social capital	+	++	+++	0	+	+	-			-			+	++	++
- i i	The structures, institutions, networks and social relationships of a country's population that enable	*** • 2020 2	840 20	70 2460	*** * 2020 2	548 20	ro 2486		144 201	ro 2466		548 201	70 2486		E40 207	0 2166
	individuals to maintain and develop their human capital in partnership with others, and to be more productive when working together than in isolation	Increasing within soc institution	collabora iety, stren s.	tion gthening	Overall sta increasing structure, institution regulation the societa resource u	able then s trend in s relationsh s. Greater and plann al level (e. use, land u	lightly ocietal iips and ning at g. natural se).	Deteriora UK breaks governme of clan str	ting social apart and nts fail. En ucture by 2	structure. nergence 2100.	Strong de increasing rigid segre the end an competitie	crease due inequality egation of nd strong on overall.	to , until classes at	Structures networks lead to gro productive Driven by rather tha concerns.	, institutio work toget eater eness over market-fou n individua	ns and ther and all. rces al

Nr	Variable and definition		UK-SSP1			UK-SSP2			UK-SSP3			UK-SSP4			UK-SSP5	
		present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100
15	Tech development	+	++	+++	+	++	++	-			+	++	++	++	+++	+++
			2848 20	70 2180	**************************************	2848 20	70 2188		2848 20	170 2180		2848 28	170 2188		2848 28	570 2198
	Speed of technological development	technolog leading to tech deve alliances"	gy, a "green a collabor lopment ir	n race" rative n "green	sector and market-di allows teo developm expand.	d maintena riven econo chnological nent to con	ance of a omy l tinue and	isolation l developm	hampers te	ech	levels off competiti to (tech) only later elite.	due to hig ion and lov education	then h ver access which is to the	for R&D a developm	nd tech nd tech	t all levels
16	Green technology	++	+++	+++	+	+	+	-			+	++	+++	-		
		++ +++ ***			** * 2020	2848 20	70 2160		2848 20	70 2100	** 2020	2848 20	170 2160		2848 20	2100 2188
	Proportion of green technologies in technological development	Massive ir technolog leading to tech deve alliances"	nvestment gy, a "greer a collabor lopment ir	s in green n race" rative n "green	Partial ad solutions, through s intensifica	option of g e.g. in agr ustainable ation.	green iculture	Lack of re developm implemen technolog political p	sources fo lent and ltation of g y. Also not riority.	r the green t a	Tech sect transform (particula sector) th scenario.	or sets the nation to g rly in the e roughout f	reen tech energy the	Strong de impetus c developm and focus energy ge	crease due on econom eent (at all on fossil f neration.	e to the ic costs) uels for

Table 2b: Semi-quantitative trends in variables related to the Technology category of the STEEP driver classification.

Nr	Variable and definition		UK-SSP1			UK-SSP2			UK-SSP3			UK-SSP4			UK-SSP5	
		present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100
17	Tech transfer	+	++	+++	+	+	++	-			+	0	0	+	++	+++
		*** • 2020	2848 20	270 2198	44 2020	2849 2	070 2188		2849	2010 2168	*** * 2020	2040 2	970 2188	*** * 2020	2848 2	070 2198
	Intensity of exchange of technologies and know- how between countries and sectors	Increasing internatio lead to a ' characteri technolog	g national a onal collabo 'green allia ised by exo gies and kn	and oration ance" change of iow-how.	Tech tran limited by competit private pa	sfer increa y the role o ion betwee artnership:	ises but is of en public- s.	Decreasir internatic and excha technolog	ng societal onal collab ange preve gy transfer	and ooration ent rs.	Slight inc focus on which pa exchange between strong co absorptic companie to curren	rease due tech devel rtially eme of know-ł companie ompetition on of SMEs es results in t levels.	to initial opment, rges from now s. But then and by large n a return	Very high legal barr tech deve focus on e developm	given less iers to exc elopment a economic nent and tr	strict hange of ınd strong ⁻ ade.
18	Diffusion of tech across society	+ ++ +++			+	+	+	0	+	++	+			+	++	++
			2848 20	270 2186	4 2020	2149 2	070 2186	*** * 2520	2848	20170 2180	2020	2848 2	2188	** * 2020	2848 2	070 2488
	Intensity of diffusion and utilisation of technologies across different segments of the society	Increasing society an movemen the excha ideas, knc practices.	g collabora nd (later) fr nt of peopl nge of sus owledge ar	tion in ree e foster tainability nd	Technolo the micro society (e micro-en	gical soluti -level spre e.g. driver-l ergy).	ons on ead across ess cars,	Diffusion technolog have to in themselve livelihooc	of subsiste gies grows Icreasingly es to susta Is.	ence as people y rely on ain their	First incre SMEs as y multinati tech lifes decrease and the r to utilise poverty, skills.	ease due to well as onals and tyles. Then as SMEs ta nasses stru new tech o lower eduo	o active new high- strong aken over iggle due due to cation and	Increase of inequaliti people ar developm of techno	due to low es, therefo e engaged hent and u logy.	er ore more in the tilisation

Nr	Variable and definition		UK-SSP1			UK-SSP2			UK-SSP3			UK-SSP4			UK-SSP5	
		present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100
19	Infrastructure	+	++	++	+	++	++	+			++	0	-	+	++	++
		*** • • • •	2848 201	0 2186	2020	2848 20	ro 2100	*** 20200	2848 201	r0 2468	2020	2848 20	2100	*** • 2020	2840 20	rg 2188
	Public spending on infrastructure relative to the size of the economy	Increase in on infrasti investmer and transf infrastruct stabilises.	n public sp ructure thr nt in repur formation ture, which	ending rough posing of n then	Initially in on transp then mor cities, ver	creased sp ort infrastı e spending tical agricu	ending ructure, on smart Ilture, etc.	Initial incr the manu then large public spe spending	ease in spe facturing s decrease ending, as o prioritised	ending on ector in defence	Increases investmen and assoc Later goe sector tak spending.	early due f nts in greei tiated infra s down as se over mu	to n energy structure. private ch of this	Strong inv of the ecc increasing	vestments, nomy is al massively	but size so '.
20	Renewables	++	+++	+++	+	+	++	-			++	++	+++			
			2846 201	70 2160	** ** 2020	2848 20	70 2100		2848 201	70 2188	2020	2840 201	ro 2100		2546 20	ro 2100
	Share of renewables within the total energy mix	Rapid aba fuels and s renewable energy is o renewable	ndonment switch to es. By 207(derived frc e resource:	of fossil), all m s.	While ead on fossil f the most resources mix and h targets fo private se scale infra for renew barrages) of energy widespres	ch country fuels, they of their na a within the ave their of r renewab ector finance astructure vable energy . Micro-gen also becomed.	still relies also make tural eir energy own les. The ces large- projects gy (e.g. neration mes	With less funding, f the infras technolog renewabl decrease use.	and less av ailure to m tructure ar y associate e energy le in its efficie	vailable naintain nd ed with eads to a ency and	Large incr focus of b and busin energy.	rease due t both the go bess on gree	o the vernment en	Decreases incentives due to pre cheaper a available Renewabl when eco	s considera for green eference fo nd more ro fossil fuels es only rer nomically	ibly as no energy or eadily main feasible.

Nr	Variable and definition		UK-SSP1			UK-SSP2			UK-SSP3			UK-SSP4			UK-SSP5	
		present –	2040 -	2070 – 2100	present –	2040 -	2070 – 2100	present –	2040 -	2070 – 2100	present –	2040 -	2070 – 2100	present –	2040 -	2070 – 2100
21	Bioenergy	+	+	+	+	+	+	-		-	+	-		-		
		2020	2848 2	2190	** * 5020	2848 2	2198		2049 2	2190	** * 2020	2649 2	070 2189		2849 2	070 2198
	Share of bioenergy within the total energy mix	First an in (primarily Business- to fossil fu stabilisation production more sust (wind, sol	crease, as from was as-Usual a uels. Then on due to n and trar tainable re ar, waste	biomass te) is a lternative less waste nsition to esources water).	First an ir carbon se Later on, the need used for H land used While new bioenergy sewage), than bioe importan	acrease du equestratic stabilisatic to balance bioenergy I for food o w sources y are utilis other rene energy bec t.	e to on efforts. on due to e land crops with crops. of ed (e.g. ewables ome	Decrease prioritiza productio decrease to coal. F of wood but still lo today.	in bioener tion of foo on. Later, f due to the inally, incr as the coal ess bioener	rgy due to d urther e return eased use runs out, rgy than	Initial inc to green decrease competit in bioene profitable renewab	crease as pa energy. Th as strong cion for lan ergy becom e than othe les.	art of shift en d results ning less er	Declining from crop Some bio eventuall waste.	trend in b bland and f energy pro y emerges	ioenergy forests. oduction from
22	Energy efficiency	+	+++	+++	+	++	++	0	-		+	+	+	+	++	+++
	Reduction in the amount of energy required per	*** • 2020 -	2848 2	7070 2190	** 2020	2848 2	2070 2188	*** *** 2020	2010 2	2190	** 2020	2649 2	XXTO 2188	** 5020	2848 2	070 2198
	unit of goods and services produced, through improvements in technology in manufacturing and waste elimination.	Rapid gre- developm waste alo chains. St regulatior leading to efficiency	en techno nent paired ng the pro rict buildir ns are well b better en	logy d with less oduction ng l-enforced, nergy	Energy ef improved partnersh technolog energy ar infrastruc	ficiency is l by public nips pushir gical devel nd micro-e cture.	gradually -private ng forward opment in nergy	Lack of in technolog results in energy ef infrastruct and return sources of wood) fu energy ef	vestment gical devel no improv ficiency. Li cture deter n to tradit of energy (or rther decre ficiency.	in opment vement in ater on, rioration cional coal, ease	Slight inc investme is mitigat in the de competit scale nat oligopolis	rease due ents in tech ted by som velopment tion and the ure of busi stic positio	to , but this e barriers due to e large- nesses in ns.	Monetary produce of efficiently througho	/ incentive energy mo / increase ut the scen	s to re nario.

Nr	Variable and definition		UK-SSP1			UK-SSP2			UK-SSP3			UK-SSP4			UK-SSP5	
		present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100
23	Water abstraction change				++	++	+	+	0		++	++	++	++	+++	+++
		Water de	2848 27 mand decr	ro 2000 Peases so	Increased	water abs	2198 straction	Water de	2848 Mand incre	2100 eases up	Initially m	2849 2 noderate ir	2180 Crease	Strong de	emand for v	70 2188 water
	Level of abstraction of freshwater from surface and underground sources	the need abstractic Efficiency as water s due to gre and susta	for water of water u of water u paring inc een techno inable lifes	es. use as well reases blogies styles.	due to in domestic 2100, mit technolog infrastruc for water	creasing de food prod igated by gies, green ture and r provision.	emand for lucts. By improved egulation	to 2040 d the agricu manufact 2050, the system co of investr maintena infrastruc communi harvestin capita use	ue to dem iltural and water dist ollapses du nent and nce of ture. Later ty rainwate g and decr e.	and from ors. By cribution e to lack - er easing per	due to hi industry a intensive levels off technolog	gher dema and large-s agricultur due to imp gies from F	ind from scale e. Then proved R&D.	resources for enviro However, ensures n and availa economic	s, with little onmental p , tech deve no water sh ability to su c developm	e concern rocesses. lopment ortages ustain uent.
24	R&D	+	++	++	+	++	++	-			+	++	++	+	++	++
	Spending on R&D relative to the size of the economy	Global sho increase i Steep gro race, ther high level	pocks quickl n R&D spe wth due to o stabilisati	ly trigger nding. o green ion at	A series of diseases floods, du related to triggers a policy res	of shocks (e of crops ar oughts, ep o human h strong R& sponse.	e.g. nd timber, pidemics ealth) &D and	Decline ir and priva due to tra societal c	public te spendin ide barrier ollapse.	g in R&D s and	Increase i (both put support t Later mos from priv	in R&D spe blic and pri ech develo st R&D spe ate sector.	ending ivate) to opment. ending	Significan economy substanti the end.	t R&D spen also grows ally, so leve	nding, but els off at

Nr	Variable and definition		UK-SSP1			UK-SSP2			UK-SSP3			UK-SSP4			UK-SSP5	
		present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100
25	Manufactured capital	+	0	-	+	++	+++	0			++	+	0	+	++	+++
	Material goods, tools, machines, buildings and other forms of	** 2020 21	549 207	2180	** 2020 2 	540 207	70 2100	*** *** 2005	207	70 2198	2020 2	549 207	0 2188	** 2020 2	549 207	0 2188
	Infrastructures - that contribute to the production process but do not become embodied in its output. Manufactured capital can be created by building dams, water pipelines, sea-walls, hospitals, roads, etc.	At first, bu infrastruct technologi localised li decreasing products r manufactu	ilding new cure based ies. Later c festyles ar g consump equire less uring.	on green on, more nd tion of s and less	Growing p funding in developm proliferate stations, s additional infrastruct speed rail. privately f transport, housing ar developm	ublic-priva to infrastru ent. Urban es around u timulating investmer ture, includ Large-sca unded pro infrastruc nd urban ent.	ate ucture hisation railway hts in rail ding high- le jects in ture,	With less a funding, e infrastruct maintaine deteriorat	and less av xisting ure is not d and ever es.	vailable ntually	Increases investmen and associ Later goes infrastruct been deve only main slower tha investmen variable de private see	early due t its in greer ated infra- down as cure has al cloped and tained. De in the "pul its in infra- ue to influ- ctor fundir	to n energy structure. ready is then clines blic structure" ence of ng.	Strong foc for transpo support pr trade. Also manufactu environme e.g. desali	us on infra ort and cit oduction a o focus on ured soluti ental degra nation pla	astructure ies to and tech and ons to adation, nts.

Nr	Variable and definition		UK-SSP1			UK-SSP2			UK-SSP3			UK-SSP4			UK-SSP5	
		present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100
26	Protected areas	+	++	+++	0	0	+							-		
			2848 20	170 2460	*** * * * *	2545 20	170 2468		2546 20	170 2466		2849 20	070 2198		2848 2	2460
	Spatial extent of protected areas	Societal emphasis on the environment leads to increasing nature protection.			Strong lar focuses o biodiversi agricultur Increase i not priori the end, I for food p up more I conservat	nd use plar n combinir ty protecti al product n protecte tized. How ess land is production and for ion.	nning ion with ion. d areas is rever, in needed freeing	Nature pr declines of need for l resources move to r exploit na land for s	otection q lue to the o ocal natura . Later, peo ural areas tural resou ubsistence	uickly emerging al ople and urces and lifestyles.	Environm are relaxe exploit na Strong de protected disappea privatised	nental regu ed for busin atural reso ecline in (pr d areas tha r. National d.	lations nesses to urces. ublic) t Trust is	Any prote that is pro lowlands land that agricultur may be re (but not a for nature	ected areas ofitable in is quickly l is not nee e in the up ewilded foi s protecte e).	s on land the lost. Later, ded for plands r tourism ed areas
27	Land use regulation	+	++	++	+	++	+++	-			+	-	-	-		
		+ ++ ++ 2020 2048 2070 2198			2023	2848 20	770 2168		2548 20	770 2488	2023	2545 27	070 2168		2646 2	070 2189
	Level of regulation related to land use change	Strong; led by local governance.			Very stroi centralise	ng; led by d planning	3.	Diminishin restrictior Gradual s competiti	ng land use is and plar nift to unc on for lanc	e nning. ontrolled d.	Initial inc but for be who then influence for their of Regulation substitute favouritis	rease in re enefit of bu increasing those regu own benef ons get incr ed by incer sms.	gulations usinesses gly ulations it. reasingly ntives and	Regulation planning of market-dr	ns on land decrease c riven force	l use due to es.

Table 2c: Semi-quantitative trends in variables related to the Environment category of the STEEP driver classification.

Nr	Variable and definition		UK-SSP1			UK-SSP2			UK-SSP3			UK-SSP4			UK-SSP5	
		present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100
28	R&D effects on agricultural yields	+	++	++	+	++	++	0	0	-	+	++	++	+	++	+++
	Changes in agricultural		2848 20	70 2988		2848 28	270 2198		2040 20 2040 20	2100 2100	**************************************	2849 2X	200 2000		2848 20	770 2188
	yields due to R&D such as crop breeding, agronomy, etc.	and anima hydropon used to in sustainab	ics and GN crease yie ly.	id plant g, urban IOs are Ids more	Fertilizer crops imp productio and a shif scale urba less) agric	to improve use efficie roves. Lat of artific t towards an vertical culture.	ogies e. ncy of er, cial meat large- (land-	imports a distribution of investri later on y to land de	I livestock ate for red nd a decay on system. nent in R& ields decre	to uced food ving food . But lack .D means ease due	agricultur large-scal efficient f the privat agricultur	ral R&D to le, high-pro farming, es te sector fo ral intensifi	support ofit and pecially in or ication.	especially environm potentiall affecting	to counte ental impa y negative yields.	ract acts ly
29	Agriculture area	-				+	-	0	+	+++	0	-	+	++	0	0
			2848 20	TO 2160	2020	2849 2	2156	2020	2848 20	210 2100	**** * 2020	2 set	2160	2020	2848 20	10 2166
	Area of agricultural land	Agricultur decreases in food wa consumpt (particula and the su sustainab practices agricultur	al land are due to rec aste, decre tion of mea rly beef) an uccess of le intensifi and green al technolo	ea slightly ductions easing at nd dairy, cation ogies.	Agricultur to increas domestic time slice decreases in agricult farming.	al area gro ing demar food. In th , agricultur due to te cure and ve	ows due nd for ne final ral area chnology ertical	After an i strong pri for agricu large grow demand o imports. I area expa to lower y food for s priority fo	nitial stable oritisation lture to me wth in dom due to limit finally, agr nds signifi yields and p urvival be or all peopl	e trend, of land eet the nestic food ted food icultural cantly due growing comes a le.	Initially st decrease intensific combinat intensific agricultur contribut inversion	table then due to agr ation. Afte tion of agri- ation, land re and land re to a sligh of this tree	a slow icultural r 2070, a cultural less I-grabbing nt nd.	Agricultur initially, p nature pr especially lowlands. intensifica imports n	al areas in artly at the otection a in the pro Then redu ation and f neeting de	crease e cost of nd ductive uce due to food mand.

Nr	Variable and definition		UK-SSP1			UK-SSP2			UK-SSP3			UK-SSP4			UK-SSP5	
		present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100
30	Fertiliser use				-	-	-	++			+	+	+	++	+	0
			2849 2	070 2188		2849 2	070 2198	2020	2848 2	070 2198	*** * 2000	2846 29	070 2198		2848 2	070 2188
	Amount of fertilizer inputs in agricultural production	Green teo animal br hydropor used to ir reducing use. Redu fertilizer u and reach 2070.	chnology, eeding, ur lics and GI licrease yie artificial fe lictions in a use are act a zero usag	olant and ban MOs are Ids whilst ertilizer artificial celerated ge by	Fertilizer gradually sustainab agricultur as a resul availabilit fertilizer	input decr as a result le intensif re, so yield t of both h cy of arable use efficien	eases t of the ication of s improve higher e land and hcy.	Initially, in use to bo productic synthetic pesticides prohibitiv inputs be	ncrease in ost domes on. Later, t fertilizers s start to b re and che come unol	fertilizer tic food he cost of and ecome mical btainable.	Increased associate intensific compense advances improved efficiency	l use of fer d with agri ation. But ated by str associated fertilizer u	tilizers icultural partly ong tech d with use	Large incu arising fro continue, gradually because of supply. The by crop b nutrient-of technolog	reases in y om high in but use o decrease of reduced his is comp reeding ar efficient fa gies.	ields puts f fertilizers from 2040 global global oensated nd rming
31	Natural capital	2070. ++ +++			-	0	+				0	-	-	-		
	Any stock or flow of energy and matter that yields valuable goods and services. This	++ +++ +++ *** 2020 2840 2070 2100 				2848 2	070 2188		2849 2	070 2160	*** * 2000	2007 2	070 2188	44 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	2849 2	070 2188
	includes resources, some of which are renewable (e.g. timber, grain) and others that are not (e.g. fossil fuels). Natural capital also includes sinks that absorb, neutralize or recycle waste.	As natura becoming wealth ar becomes by less ma lifestyles, (due to gr and natur	l capital st g seen as k ad prosper increasing aterial-den higher eff reen techr re protecti	arts ey to ity, it y spared manding iciency ologies) on.	Initial cor deteriora environm that intro Ecosyster Land is hi planned t good. Bio a slower for conse	ntinued tion of the lent, then duce Payn n Services ghly regula to achieve diversity of rate as lan rvation.	policies nent for schemes. ated and social leclines at d is freed	Natural c increasing due to lift regulation domestic and manu to remerg lifestyles.	apital gets gly exploite ting enviro ns to secur food prod ufacturing, ging subsis	ed, first nmental re uction later due tence	Weaker e regulation in natura biodivers renewabl increases	nvironmen ns lead to (l capital an ity loss, ex e energy v	ntal decreases id cept for vhich	Strong de the increa monetary natural re which do natural ca worsened regulation Only som regulating where vit	crease be asing focus compens source ex es not sub apital. This by weake ns to prote e mainten g ecosyste al for hum	cause of s on ation for ploitation, stitute is ened ect nature. ance of m services an needs.

Nr	Variable and definition		UK-SSP1			UK-SSP2			UK-SSP3			UK-SSP4			UK-SSP5	
		present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100
32	GDP	+	+	++	+	+	++	0	0	0	+	+	++	+	++	+++
	Gross Domestic Product based on IIASA projections (model IIASA	** 2020 2	2848 201	70 2186	2020	2848 201	ro 2188	2000	1548 20	70 2188	*** * 2020	2848 20	170 2488	2020 	20	ro 2100
	GDP)	Trends aco GDP proje	cording to ections.	IIASA SSP	Trends ac GDP proje	cording to ections.	IIASA SSP	Trends ac GDP proje	cording to ections.	IIASA SSP	Trends ac GDP proje	cording to ections.	IIASA SSP	Trends ac GDP proje	cording to ections.	IIASA SSP
33	Household income per capita	0	+	+	0	+	+	-			-			+	++	+++
		** ** **	2948 201	70 2188	*** *** = 2000	2948 201	ro 2198		1940 200	70 2188		2848 20	70 2198		1940 20	ro 2198
	Trend in gross disposable household income per capita	Household slightly du wellbeing of life is no through ir	d income g ie to the sh economy. o longer re ncreasing ii	rows only nift to a Quality eached ncome.	Household gradually distribute economic somewha introducti	d income g due to une d benefits growth an t also due on of basic	rows only equally of to the c income.	Initial dec poverty. L substantia breakdow and emer subsistend informal e	rease due ater on, a al drop due n of the eo gence of ce lifestyle economies	to rising e to the conomy s and	Substanti masses du inequaliti economic concentra a few elite	al decrease ue to extre es in spite growth. V ated in the e.	e for the me of Vealth is hands of	Household all society economic redistribu The high e high incor very low in of the "mi to grow in	d income g due to hig growth ar tion mech effect is du nes couple nequalities llionaires" the scena	rows for gh anisms. e to very ed with s (in spite assumed rio).

Table 2d: Semi-quantitative trends in variables related to the Economy & Lifestyle category of the STEEP driver classification.

Nr	Variable and definition		UK-SSP1			UK-SSP2			UK-SSP3			UK-SSP4			UK-SSP5	
		present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100
34	Tourism	-	0	+	0	+	+	-			-	-	-	+	++	++
	Share of the tourism		2845 21	370 2 198	55 5020 5020 5020	1948 20	70 2198		2846 201	70 2468		2548 2	970 2188	*** 2020	2848 207	70 2486
	sector in economic activity	Internatio decreases sustainab time is rep sustainab	nal tourisr due to ility concer placed by l le tourism.	n rns, yet in ocal	Tourism s to the inv private pa facilities.	lightly incr estments (artnerships	eases due of public- s in	Increasing and later subsisten substanti tourism.	g poverty a return to ce living, le al decrease	and crime, ead to a e in	Overall de some poo remain in	ecline, alth kets of this place for t	ough s sector the elites.	Large incr particular tourism, o individual	ease in tou ly internat due to wea listic societ	urism, ional Ithy, y.
35	Industry	0	0 0 0			+	++	+	0		0	+	+	+	++	++
	Share of the industry sector in economic activity	Industry of rather res on green f sustainab Industry is to comply economy.	loes not gr tructures t technologi le product: s gradually v with a cire	row, it co focus es and s. reformed cular	In selecte private pa infrastruc and indus	d regions, artnerships ture inves trial growt	public- s boost tments th.	At first, in repurpose sites reinv up for der Later, the weakens resource deteriora	dustry is ed and old <i>v</i> igorated t creasing im industrial due to nat scarcity an ting infrast	industrial to make aports. sector ural id tructure.	Slight incomultination Types of it regionally skill indus England s computin aerospace services; industries England a call centr networks sector an	rease drive onal busine industries of , e.g. focus stries in sou such as rob ag, biotech, e and finar focus on lo s in northe and Wales s es, distribu , the self-s d retail.	en by esses. differ s on high utheast otics, , ncial pw-skill rn such as ttion ervice	Large incr economic the end d investment the first t the greate economy sector.	rease to su growth. P ue to stror nts in this s ime slice. H er share of is in the se	pport lateaus in ng sector in łowever, the ervice

Nr	Variable and definition	UK-SSP1 present – 2040 – 2070 – 2040 2070 2100				UK-SSP2			UK-SSP3			UK-SSP4			UK-SSP5	
		present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100
36	Funding transfers	+	+	+	-	-	-	0			0	-		0	-	-
		2030	2848 22	170 2188		244 2	070 2188	2020	2	070 2188	2020	2500 22	070 2188			2100
	Transfer of public money from England to other UK countries	First, increase in transfers as more money is needed in UK countries for green race, etc.), then stabilisation. in transferred, the transferred money. Towards 2100, countries need less and less transferred money. In transferred money.			Increasing in the UK the need transfers.	g tax-raisir nations de for fundin	ng powers ecrease g	Lack of m transfers investme Cease of UK break	oney avail due to inc nts in defe transfers a s apart.	able for reasing nce. fter the	Public see private se increasin results in being tra	ctor decrea ector becor gly importa less public nsferred ov	ases as mes ant. This c money ver time.	A decreas more equ pays less.	e over tim ality mean	e because as England
37	Income inequality	-			0	+	+	0	++	++	+	++	+++	-	-	-
	Level of income inequality	Image: state			Inequality later sligh regardles growth an	/ remains s itly increas s of econo nd basic in	stable and ses mic come.	Inequaliti collapsing healthcar people (o manufact leaders) I 2100.	es are incr g education re systems. ther than curing/ mili ive rather	reased by nal and . Most defence/ itia poorly by	Very stro core of th increase	ng inequal ne scenario over time.	ities at the	Lower ine economic redistribu though m Availabilit and econo	qualities b growth ar tion mech ore "millic y of oppor omic devel	pecause of nd anisms, onaires". rtunities lopment.

Nr	Variable and definition	UK-SSP1			UK-SSP2				UK-SSP3			UK-SSP4		UK-SSP5				
		present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100		
38	Consumption level				+	+	+	-			+	-		+	++	+++		
			2848 20	ro 2460	** * 2020	2848 2	270 2166		2848 20	270 2460	*** * 2020	2846 20	JTO 2168	*** *** 2020	2848 20	rg 2460		
	Overall consumption of resources, goods, energy, etc.	Switch to and sustai decreases consumpt	welfare ec inable lifes material ion.	conomics tyles	Society co status-qu consump constrain increase i	ontinues to o material tion, howe ed by limit n purchase	o focus on ever, ed e power.	Rapidly d of goods a decrease and barrid availabilit Increasing malnutrit	ecreasing a and food. (in manufa ers to trade y of goods g food shou ion.	availability Gradual cturing e limit rtages and	At first ind goods and National I increasing populatio purchasin to opport	creased de d foods in Plan. Howe g shares of in have les ig power a cunities.	emand for line with ever, the s and less nd access	Strong increase in consumption driven by a consumeristic society and economic growth. Both availability of, and deman for, goods and resources increase substantially.				
39	Consumption source/proximity	+	++	++	0	+	+	+	+++	+++	-	-	-	0	0	0		
			2848 20	ro 2460	** ** ** **	2645 2	270 2168	2020	2848 20	270 2480		2845 20	DTO 2168	2020 2845 2070 2164				
	Consumption of local food and products	Increasing lifestyles.	ιγ localise	d	Increasin domestic However, rising foo	g demand food prod balanced d imports.	for uction. out by	Barriers to availabilit of goods a decay of f systems a to local su	o trade lim y of distan and food. I food distrik nd a comp ibsistence	hit the ht sources Later, a bution blete turn lifestyles.	Slight dec the major populatio food/proo supplied l companie becomes individual	rease as p rity of the on is for cho ducts, whic by multina es. The pop focused on lism.	riority for eaper ch are tional pulation n	Not neces for local p resources important allocation preference distant. T change" t uncertain	sarily a pr roduce an . Nationali t and price determine e for local herefore, o capture ty.	eference d sm is less es vs "no this		

Nr	Variable and definition	UK-SSP1			UK-SSP2				UK-SSP3			UK-SSP4		UK-SSP5			
		present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	
40	Meat consumption	-			-	-		-	-	-	-	0	0	+	++	++	
			2848 20	TO 2100		2848 2	2196		2648 20	2100		2848 0	J/0 2150	** * 2020	2848 20	iro 2100	
	Meat consumption per person	Decreasin meat (par dairy due concerns.	g consump ticularly bo to sustaina	otion of eef) and ability	Changing consumer patterns as demand gradually shifts towards different food products, particularly vegetarian and vegan (as these become more affordable).			Meat is le being con a luxury if	ss availabl sumed bu æm.	e. It keeps t becomes	Corporati marketing first due t cheaper a compensa time perio developm meat.	ons dictate g. Initial de co lifestyle, availability ates in the od with the nent of arti	e food ecrease , but of meat middle e ficial	Meat con due to co individual little cond environm to reachin relative to food price	increases c and rles with e ises due ium ind due to		
41	Resource and food waste	-			0	-	-	-			-	-	-	+	++	+++	
			2848 20	170 2100	*** * 2020	2111	2190		2646 20	270 2496		2846 28	2196		170 2100		
	The amount of resources and food wasted along the whole supply chain	The invest technolog sustainabl conscious decreases waste.	ments in g ies and sh le and con lifestyles g the amou	green ift to sumption- gradually nt of	Agricultur gradually amount of productio change is public aw willingnes patterns t	ral technol decrease of waste all on chains. slow due rareness ar ss to adjus to reduce of	logies the ong food The to lack of nd t lifestyle waste.	The grow domestic inability t through in leads to in of all reso decreases	ing depend resources o obtain re nternation ncreasing u urces and s in waste.	dence on and esources al trade utilisation thus	Technolog gradually amount o productio lack of pu willingnes patterns o waste.	gical devel decreases f waste alo n chains. I blic aware ss to adjus offsets dec	opment the ong food However, ness and t lifestyle creases in	Technological development only decreases the amount of waste along food production chains when economically profitable. Individualistic behaviours and consumerist society do not prioritise waste reduction.			

Nr	Variable and definition		UK-SSP1		UK-SSP2				UK-SSP3			UK-SSP4		UK-SSP5		
		present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100
42	Financial capital	0	+	+	+	+	++	0			-			+	+++	+++
	Enables other forms of capitals to be owned and traded but has no intrinsic value – its value	inables other forms of apitals to be owned ind traded but has no	** * 2020 2	1940 207	ro 2480		201	ro 2188		1946 201	ro 2488	2020 2448 2070 2488				
	is purely the ability to secure services of natural, human, social or manufactured capital.	 value – its value y the ability to services of , human, social or ctured capital. Financial capital gradually increases but levels off as it becomes less of a priority due to the transition to a welfare and circular economy. 					eases omic cional	Financial of through s and furtho when the	capital is d pending or er deterior UK breaks	epleted n defence ates apart.	Financial of due to bar and excha competition behaviour	capital dec rriers in co inges due t on and olig of the elit	reases operation to gopolistic tes.	Trade and capitals an the marke mechanise	provision e ensured t-economy ns.	of through ⁄

Nr	Variable and definition	UK-SSP1			UK-SSP2				UK-SSP3			UK-SSP4		UK-SSP5		
		present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100
43	Imports of natural resources	0	0	-	+	+	+	-			+	+	+	+	++	+++
		*** * 2000 *	2546 20	2160	*** * 2000	2848 20	70 2466		848 207	ro 2460	*** * 2020	2846 20	70 2160	*** * 2020	1848 20	70 2168
	Volume of imports of natural resources (food, timber, minerals, etc.)	Although consuming grows, UK only slowl reduces it footprint i through ir sustainabl	the empha g domestic 's imports y. Howeve s environn in other co nporting s le products	isis on products decrease r, the UK nental ountries olely s.	Rising foo depender and gas.	d imports, nce on imp	and orted oil	Dramatic o due to bar internatio conflicts.	decrease ir riers to tra nal rivalry	n imports ade, and	Slight incr dominanc corporatio	ease due t e of multi ons.	o national	Strong increase due to high economic growth through trade.		
44	Globalisation of trade	0	0	-	+	++	++	-			+	++	++	+	++	+++
		*** *** 2020 ***	2844 27	2160	** 2020	2848 20	70 2480		540 207	ro 2480	**	2848 20	70 2160	**	1546 20	70 2166
	Total value of international imports and exports	Turn to lo	calised life	styles.	Rising foo depender and gas. A in services forefront as they de facilitates maintaini internatio	d imports, nee on imp As the UK s s, it is at th of new tec evelop. Thi the UK in ng a strong onal trade.	orted oil pecialises e hnologies s g role in	Strong bai border clo rivalry and	rriers to tra ise, interna I conflicts.	ade as ational	Increase of multina economy.	due to don ationals in	ninate role the	Strong em internatio	iphasis on nal trade.	

Table 2e: Semi-quantitative trends in variables related to the Policy & Institutions category of the STEEP driver classification.

Nr	Variable and definition	UK-SSP1			UK-SSP2				UK-SSP3			UK-SSP4		UK-SSP5			
		present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	
45	International cooperation	+	++	+++	+	+	+	-			+	+	+	+	+	+	
		Collaboration	tion dome	stically	Slight incr	rease as al	l decision-	Strong de	2040 Z		Slight inc	rease in	2198	More inte	2848 R	2198	
	Strength of agreements and intensity of collaboration	key role in ensuring t and proje- gain mutu boosted b Commony agreemen movemen the excha ideas, kno practices.	the green cechnologie cts are sha ial benefits by Europea wealth inte its on free it of people nge of sust owledge an	es, ideas red to s. Further and ernational e to foster tainability ad	internatic UK plays a internatic including sustainab	vely to en a key role onal agend those rela le develop	together sure the in as, ted to oment.	to border internatio conflicts.	closure,	r and	when for in goverr particula business	the benef ment and rly multina es.	it of elites	facilitating trade and economic collaboration. However, no binding politica agreements assumed, and solely related to trade.			
46	Environmental policy	+	++	+++	+	+	+	-									
	Strictness of	Strong en	vironment	¹⁷⁰ 2198	Strong lar	2849 2 nd use plai	070 2188 nning	Lift of env	2840 27 vironmenta	070 2160 al	Legislatio	2140 2 on de facto	1070 2100 favours	199 2844 2070 2199			
	regulation	facilitates state of th	stabilisati ne environ	ion in the ment.	regulation a wider su natural re widespre degradat	ns to allow upply of do esources, le ad environ ion.	access to omestic eading to imental	large bus not nece environn starting f period.	inesses, w ssarily prio nental regu rom the fir	hich do pritise Ilation, rst time	looser and support is substantially lower due to decreased awareness and focus on economic development at all costs.						

Nr	Variable and definition		UK-SSP1		UK-SSP2				UK-SSP3			UK-SSP4		UK-SSP5				
		present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100		
47	Effectiveness of institutions	+	++	+++	0	+	+	-			+	+	+	+	++	++		
		** • • • •	2848 20	70 2488	*** * 2020	2548 20	70 2188		2548 20	770 2488	** 2020 	1948 20	JTQ 2188	** 2020 	1940 ZO	70 2100		
	Level of stability and functioning of formal institutions	of stability and Defining of formal tions					cision- n and nacy of erships.	Institution 2070, poli governand the four n collapsed is reached and justic in the pas	al breakdo tical and ce systems ations hav and a tipp I when the e system (a t) no longe	own. By s across ve ing point e police as known er exists.	Stability b (irreversit However, limited to elites.	ecause of le) power functionir the benef	strong of elites. ng is it of the	Institutions work effectively but different levels of awareness and involvement (given strong individualism)				
48	Participation in governance	++	+++	+++	0	0	+	-			-			+	+	+		
	Degree of multi-level				*** * * * * *	2646 20	ro 2486		2546 20	170 2468		1545 20	2190	** ** ** ** ** ** ** ** ** **				
	governance - level of the involvement of all parts of the society in decision-making processes	Rapid incr participat decision-r	ease in ion and loo naking.	calised	Participat towards t scenario p connectio planning i states.	ion taking he end of f particularly n with urb n the eme	off :he in an rging city-	Initially, p in governa to low eng institution decisions and within entirely w participat	ublic partion ance decre gagement. hal collapse are made l n clan struct ithout the ion of the l	cipation eases due After the e, by militias ctures masses.	No access Only elite	to decisio s have con	n-making. Itrol.	g. Market-driven opportunities. Self-interest but possibilities for participation bottom-up.				

Nr	Variable and definition	UK-SSP1			UK-SSP2				UK-SSP3			UK-SSP4		UK-SSP5			
		present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	present – 2040	2040 – 2070	2070 – 2100	
49	Devolution and decentralisation of decision-making	+	++	+++	+	++	++	++	+++	+++	-			+	++	++	
	Level of devolution and	*** • 2020 2	20	iro 2406	*** • 2020	2848 20	ITO 2188		2848 20	210 2100		2848 20	ro 2408	2020 2	2848 20	iro 2466	
	decentralisation of decision-making to sub- national levels (below the UK level)	By 2040 th the UK is h the four co and to reg within eac	ne governa nighly devo onstituent cions and c ch county.	ance of olved to countries cities	The UK continues to decentralise its governance system, devolving further powers to Scotland, Wales and Northern Ireland, as well as expanding the role and decision-making authority of mayors of major UK cities.			Rivalry be countries natural re Tensions a increasing and propa the UK bro	tween the for access sources ac are spearh g nationalis aganda. Af eaks apart	e four UK to ccelerates. leaded by stic views ter 2040	Economic concentra	and polition	cal power stminster.	 Devolution but coordination with Westminster to sustain economic growth. Overall government role at multiple levels tends to allow laissez- faire. 			
50	Public awareness and engagement	++	+++	+++	0	0	+	0	-		-			-			
	The level of weblic	2020 2848 20770 2188				2848 20	170 2486	*** ** 2020	200	270 2480		2848 20	70 2998	2 2 2 2 4 4 2 20179 2 1 9 			
	awareness of health- related, environmental and sustainability issues	Public opi recognises the enviro of sustains public bec engaged v process ar empower their lifest	nion incre s the impo onment an ability. The comes acti with this po nd people ed to trans cyles.	asingly ortance of d the role e wider vely olitical are sform	Public eng by persist increasing on, more is facilitat introducti and finally planning g strong reg	gagement i ing or sligh g inequaliti public eng ed by the ion of basid y, participa gains a plac gulatory fra	is limited htly es. Later agement c income, htory ce in the amework.	After an in the govern disintegra engageme meaningle disengage forced to in maintai subsistence	nitial stable nance syst tes and pu ent becom ess. People d socially, be highly e ning their ce livelihoo	e trend, eem ublic es e become but are engaged ods.	People ar disillusion inequality elites ove marketing	e disengag ied, due to v and contr r governar g.	ed and high ol of the ace and	Low awareness due to faith in tech and economic development. Limited awareness of those affected by adverse impacts.			

Acknowledgements

Project team

The UK-SSP Consortium consists of Cambridge Econometrics, UK Centre for Ecology & Hydrology, the University of Edinburgh and the University of Exeter.





UK Centre for Ecology & Hydrology





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