



A questionnaire on Europe in the 2050s

Tim Carter

Finnish Environment Institute, SYKE



S Y K E

Scenarios questionnaire

Your task:

- To consider the current state of the society, economy and environment in Europe
- To think about plausible developments of these by the 2050s
- To assign subjective probabilities to different outcomes



Scenarios questionnaire

Some rules:

- **Anonymous**
- **Please complete this here and now**
- **No conferring with your neighbour**
- **Please respond to all questions even if you think you know nothing about the measures listed**
- **Please hand in the questionnaire to me before the lecture (in approx. 30 mins)**



more familiar with

AVEC 2050 Scenarios questionnaire. Are you based north or south of latitude 47.5°N? **Vienna ???**.....

Please enter your estimate of the percentage likelihood of each outcome listed occurring by 2050 for the factors described (integer values between 0 and 100%). Check that the sum of the likelihoods in each row is 100%.

Population of Europe (505 million in 1995)										
Population (million)	< 405	405-430	430-455	455-480	480-505	505-530	530-555	555-580	580-605	> 605
Likelihood of occurrence (%)										
Gross Domestic Product (GDP) per capita (OECD Europe = 23600; Eastern Europe = 2800 in 1995)										
OECD Europe (thousand US\$)	< 23.6	23.6-28.6	28.6-33.6	33.6-38.6	38.6-43.6	43.6-48.6	48.6-53.6	53.6-58.6	58.6-63.6	> 63.6
Likelihood of occurrence (%)										
Eastern Europe (thousand US\$)	< 2.8	2.8-7.8	7.8-12.8	12.8-17.8	17.8-22.8	22.8-27.8	27.8-32.8	32.8-37.8	37.8-42.8	> 42.8
Likelihood of occurrence (%)										
Change in emissions of acidifying and eutrophying compounds (relative to 2000)										
Change in SO ₂ e emissions (%)	< -80	-80 - -60	-60 - -40	-40 - -20	-20 - 0	0 - 20	20 - 40	40 - 60	60 - 80	> 80
Likelihood of occurrence (%)										
Change in NO _x emissions (%)	< -80	-80 - -60	-60 - -40	-40 - -20	-20 - 0	0 - 20	20 - 40	40 - 60	60 - 80	> 80
Likelihood of occurrence (%)										
Change in European land use (relative to 1995)										
Change in agricultural area (%)	< -20	-20 - -15	-15 - -10	-10 - -5	-5 - 0	0 - 5	5 - 10	10 - 15	15 - 20	> 20
Likelihood of occurrence (%)										
Change in urban area (%)	< -20	-20 - -15	-15 - -10	-10 - -5	-5 - 0	0 - 5	5 - 10	10 - 15	15 - 20	> 20
Likelihood of occurrence (%)										
Change in forest area (%)	< -20	-20 - -15	-15 - -10	-10 - -5	-5 - 0	0 - 5	5 - 10	10 - 15	15 - 20	> 20
Likelihood of occurrence (%)										
Relative sea-level change (relative to 2000)										
Helsinki, Finland (cm)	< -40	-40 - -30	-30 - -20	-20 - -10	-10 - 0	0 - 10	10 - 20	20 - 30	30 - 40	> 40
Likelihood of occurrence (%)										
Hamburg, Germany (cm)	< -40	-40 - -30	-30 - -20	-20 - -10	-10 - 0	0 - 10	10 - 20	20 - 30	30 - 40	> 40
Likelihood of occurrence (%)										
Venice, Italy (cm)	< -40	-40 - -30	-30 - -20	-20 - -10	-10 - 0	0 - 10	10 - 20	20 - 30	30 - 40	> 40
Likelihood of occurrence (%)										





47.5°N

Vienna = 48.2°N



more familiar with

AVEC 2050 Scenarios questionnaire. Are you based north or south of latitude 47.5°N? **Vienna ???**.....

Please enter your estimate of the percentage likelihood of each outcome listed occurring by 2050 for the factors described (integer values between 0 and 100%). Check that the sum of the likelihoods in each row is 100%.

Population of Europe (505 million in 1995)										
Population (million)	< 405	405-430	430-455	455-480	480-505	505-530	530-555	555-580	580-605	> 605
Like likelihood of occurrence (%)										
Gross Domestic Product (GDP) per capita (OECD Europe = 23600; Eastern Europe = 2800 in 1995)										
OECD Europe (thousand US\$)	< 23.6	23.6-28.6	28.6-33.6	33.6-38.6	38.6-43.6	43.6-48.6	48.6-53.6	53.6-58.6	58.6-63.6	> 63.6
Like likelihood of occurrence (%)										
Eastern Europe (thousand US\$)	< 2.8	2.8-7.8	7.8-12.8	12.8-17.8	17.8-22.8	22.8-27.8	27.8-32.8	32.8-37.8	37.8-42.8	> 42.8
Like likelihood of occurrence (%)										
Change in emissions of acidifying and eutrophying compounds (relative to 2000)										
Change in SO ₂ e emissions (%)	< -80	-80 - -60	-60 - -40	-40 - -20	-20 - 0	0 - 20	20 - 40	40 - 60	60 - 80	> 80
Like likelihood of occurrence (%)										
Change in NO _x emissions (%)	< -80	-80 - -60	-60 - -40	-40 - -20	-20 - 0	0 - 20	20 - 40	40 - 60	60 - 80	> 80
Like likelihood of occurrence (%)										
Change in European land use (relative to 1995)										
Change in agricultural area (%)	< -20	-20 - -15	-15 - -10	-10 - -5	-5 - 0	0 - 5	5 - 10	10 - 15	15 - 20	> 20
Like likelihood of occurrence (%)										
Change in urban area (%)	< -20	-20 - -15	-15 - -10	-10 - -5	-5 - 0	0 - 5	5 - 10	10 - 15	15 - 20	> 20
Like likelihood of occurrence (%)										
Change in forest area (%)	< -20	-20 - -15	-15 - -10	-10 - -5	-5 - 0	0 - 5	5 - 10	10 - 15	15 - 20	> 20
Like likelihood of occurrence (%)										
Relative sea-level change (relative to 2000)										
Helsinki, Finland (cm)	< -40	-40 - -30	-30 - -20	-20 - -10	-10 - 0	0 - 10	10 - 20	20 - 30	30 - 40	> 40
Like likelihood of occurrence (%)										
Hamburg, Germany (cm)	< -40	-40 - -30	-30 - -20	-20 - -10	-10 - 0	0 - 10	10 - 20	20 - 30	30 - 40	> 40
Like likelihood of occurrence (%)										
Venice, Italy (cm)	< -40	-40 - -30	-30 - -20	-20 - -10	-10 - 0	0 - 10	10 - 20	20 - 30	30 - 40	> 40
Like likelihood of occurrence (%)										



more familiar with

AVEC 2050 Scenarios questionnaire. Are you based north or south of latitude 47.5°N? ...**North**.....

Please enter your estimate of the percentage likelihood of each outcome listed occurring by 2050 for the factors described (integer values between 0 and 100%). Check that the sum of the likelihoods in each row is 100%.

Population of Europe (505 million in 1995)											
Population (million)	< 405	405-430	430-455	455-480	480-505	505-530	530-555	555-580	580-605	> 605	
Likelihood of occurrence (%)	0	0	10	20	30	25	10	4	1	0	$\Sigma = 100$
Gross Domestic Product (GDP) per capita (OECD Europe = 23600; Eastern Europe = 2800 in 1995)											
OECD Europe (thousand US\$)	< 23.6	23.6-28.6	28.6-33.6	33.6-38.6	38.6-43.6	43.6-48.6	48.6-53.6	53.6-58.6	58.6-63.6	> 63.6	
Likelihood of occurrence (%)											
Eastern Europe (thousand US\$)	< 2.8	2.8-7.8	7.8-12.8	12.8-17.8	17.8-22.8	22.8-27.8	27.8-32.8	32.8-37.8	37.8-42.8	> 42.8	
Likelihood of occurrence (%)											
Change in emissions of acidifying and eutrophying compounds (relative to 2000)											
Change in SO ₂ e emissions (%)	< -80	-80 - -60	-60 - -40	-40 - -20	-20 - 0	0 - 20	20 - 40	40 - 60	60 - 80	> 80	
Likelihood of occurrence (%)											
Change in NO _x emissions (%)	< -80	-80 - -60	-60 - -40	-40 - -20	-20 - 0	0 - 20	20 - 40	40 - 60	60 - 80	> 80	
Likelihood of occurrence (%)											
Change in European land use (relative to 1995)											
Change in agricultural area (%)	< -20	-20 - -15	-15 - -10	-10 - -5	-5 - 0	0 - 5	5 - 10	10 - 15	15 - 20	> 20	
Likelihood of occurrence (%)											
Change in urban area (%)	< -20	-20 - -15	-15 - -10	-10 - -5	-5 - 0	0 - 5	5 - 10	10 - 15	15 - 20	> 20	
Likelihood of occurrence (%)											
Change in forest area (%)	< -20	-20 - -15	-15 - -10	-10 - -5	-5 - 0	0 - 5	5 - 10	10 - 15	15 - 20	> 20	
Likelihood of occurrence (%)											
Relative sea-level change (relative to 2000)											
Helsinki, Finland (cm)	< -40	-40 - -30	-30 - -20	-20 - -10	-10 - 0	0 - 10	10 - 20	20 - 30	30 - 40	> 40	
Likelihood of occurrence (%)											
Hamburg, Germany (cm)	< -40	-40 - -30	-30 - -20	-20 - -10	-10 - 0	0 - 10	10 - 20	20 - 30	30 - 40	> 40	
Likelihood of occurrence (%)											
Venice, Italy (cm)	< -40	-40 - -30	-30 - -20	-20 - -10	-10 - 0	0 - 10	10 - 20	20 - 30	30 - 40	> 40	
Likelihood of occurrence (%)											



more familiar with

AVEC 2050 Scenarios questionnaire. Are you based north or south of latitude 47.5°N? ...**North**.....

Please enter your estimate of the percentage likelihood of each outcome listed occurring by 2050 for the factors described (integer values between 0 and 100%). Check that the sum of the likelihoods in each row is 100%.

Population of Europe (505 million in 1995)										
Population (million)	< 405	405-430	430-455	455-480	480-505	505-530	530-555	555-580	580-605	> 605
Likelihood of occurrence (%)	0	0	10	20	30	25	10	4	1	0
Gross Domestic Product (GDP) per capita (OECD Europe = 23600; Eastern Europe = 2800 in 1995)										
OECD Europe (thousand US\$)	< 23.6	23.6-28.6	28.6-33.6	33.6-38.6	38.6-43.6	43.6-48.6	48.6-53.6	53.6-58.6	58.6-63.6	> 63.6
Likelihood of occurrence (%)										
Eastern Europe (thousand US\$)	< 2.8	2.8-7.8	7.8-12.8	12.8-17.8	17.8-22.8	22.8-27.8	27.8-32.8	32.8-37.8	37.8-42.8	> 42.8
Likelihood of occurrence (%)										
Change in emissions of acidifying and eutrophying compounds (relative to 2000)										
Change in SO ₂ emissions (%)	< -80	-80 - -60	-60 - -40	-40 - -20	-20 - 0	0 - 20	20 - 40	40 - 60	60 - 80	> 80
Likelihood of occurrence (%)										
Change in NO _x emissions (%)	< -80	-80 - -60	-60 - -40	-40 - -20	-20 - 0	0 - 20	20 - 40	40 - 60	60 - 80	> 80
Likelihood of occurrence (%)										
Change in European land use (relative to 1995)										
Change in agricultural area (%)	< -20	-20 - -15	-15 - -10	-10 - -5	-5 - 0	0 - 5	5 - 10	10 - 15	15 - 20	> 20
Likelihood of occurrence (%)										
Change in urban area (%)	< -20	-20 - -15	-15 - -10	-10 - -5	-5 - 0	0 - 5	5 - 10	10 - 15	15 - 20	> 20
Likelihood of occurrence (%)										
Change in forest area (%)	< -20	-20 - -15	-15 - -10	-10 - -5	-5 - 0	0 - 5	5 - 10	10 - 15	15 - 20	> 20
Likelihood of occurrence (%)										
Relative sea-level change (relative to 2000)										
Helsinki, Finland (cm)	< -40	-40 - -30	-30 - -20	-20 - -10	-10 - 0	0 - 10	10 - 20	20 - 30	30 - 40	> 40
Likelihood of occurrence (%)										
Hamburg, Germany (cm)	< -40	-40 - -30	-30 - -20	-20 - -10	-10 - 0	0 - 10	10 - 20	20 - 30	30 - 40	> 40
Likelihood of occurrence (%)										
Venice, Italy (cm)	< -40	-40 - -30	-30 - -20	-20 - -10	-10 - 0	0 - 10	10 - 20	20 - 30	30 - 40	> 40
Likelihood of occurrence (%)										

Σ = 100



Please enter your estimate of the percentage likelihood of each outcome listed occurring by 2050 for the factors described (integer values between 0 and 100%). Check that the sum of the likelihoods in each row is 100%.

Global mean annual CO₂ concentration (e.g. at Mauna Loa, Hawaii)										
CO ₂ concentration (ppm)	< 270	270-370	370-470	470-570	570-670	670-770	770-870	870-970	970-1070	>1070
Like lihood of occurrence (%)										
Climate in northern Europe (north of 47.5°N) relative to 1961-1990										
Mean winter (DJF) temperature change (°C)	< -8	-8 - -6	-6 - -4	-4 - -2	-2 - 0	0 - 2	2 - 4	4 - 6	6 - 8	> 8
Like lihood of occurrence (%)										
Mean winter (DJF) precipitation change (%)	< -40	-40 - -30	-30 - -20	-20 - -10	-10 - 0	0 - 10	10 - 20	20 - 30	30 - 40	> 40
Like lihood of occurrence (%)										
Mean summer (JJA) temperature change (°C)	< -8	-8 - -6	-6 - -4	-4 - -2	-2 - 0	0 - 2	2 - 4	4 - 6	6 - 8	> 8
Like lihood of occurrence (%)										
Mean summer (JJA) precipitation change (%)	< -40	-40 - -30	-30 - -20	-20 - -10	-10 - 0	0 - 10	10 - 20	20 - 30	30 - 40	> 40
Like lihood of occurrence (%)										
Climate in southern Europe (south of 47.5°N) relative to 1961-1990										
Mean winter (DJF) temperature change (°C)	< -8	-8 - -6	-6 - -4	-4 - -2	-2 - 0	0 - 2	2 - 4	4 - 6	6 - 8	> 8
Like lihood of occurrence (%)										
Mean winter (DJF) precipitation change (%)	< -40	-40 - -30	-30 - -20	-20 - -10	-10 - 0	0 - 10	10 - 20	20 - 30	30 - 40	> 40
Like lihood of occurrence (%)										
Mean summer (JJA) temperature change (°C)	< -8	-8 - -6	-6 - -4	-4 - -2	-2 - 0	0 - 2	2 - 4	4 - 6	6 - 8	> 8
Like lihood of occurrence (%)										
Mean summer (JJA) precipitation change (%)	< -40	-40 - -30	-30 - -20	-20 - -10	-10 - 0	0 - 10	10 - 20	20 - 30	30 - 40	> 40
Like lihood of occurrence (%)										



Scenarios questionnaire

Good luck!

