Climate Impact Analysis of the Shell New Lens Scenarios

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Warning: Uncertainties ahead

The New Lens Scenarios are part of an ongoing process used in Shell for 40 years to challenge executives' perspectives on the future business environment. We base them on plausible assumptions and quantification, and they are designed to stretch management to consider even events that may be only remotely possible. Scenarios, therefore, are not intended to be predictions of likely future events or outcomes and investors should not rely on them when making an investment decision with regard to Royal Dutch Shell plc securities.

Reserves: Our use of the term "reserves" in this presentation means SEC proved oil and gas reserves.

Resources: Our use of the term "resources" in this presentation includes quantities of oil and gas not yet classified as SEC proved oil and gas reserves. Resources are consistent with the Society of Petroleum Engineers 2P and 2C definitions.

Organic: Our use of the term Organic includes SEC proved oil and gas reserves excluding changes resulting from acquisitions, divestments and year-average pricing impact.

Resources plays: Our use of the term 'resources plays' refers to tight, shale and coal bed methane oil and gas acreage.

The companies in which Royal Dutch Shell plc directly and indirectly owns investments are separate entities. In this document "Shell", "Shell group" and "Royal Dutch Shell" are sometimes used for convenience where references are made to Royal Dutch Shell plc and its subsidiaries in general. Likewise, the words "we", "us" and "our" are also used to refer to subsidiaries in general or to those who work for them. These expressions are also used where no useful purpose is served by identifying the particular company or companies. ''Subsidiaries'', "Shell subsidiaries" and "Shell companies" as used in this document refer to companies over which Royal Dutch Shell plc either directly or indirectly has control. Companies over which Shell has joint control are generally referred to as "joint ventures" and companies over which Shell has significant influence but neither control nor joint control are referred to as "associates". The term "Shell interest" is used for convenience to indicate the direct and/or indirect ownership interest held by Shell in a venture, partnership or company, after exclusion of all third-party interest.

This presentation contains forward-looking statements concerning the financial condition, results of operations and businesses of Royal Dutch Shell. All statements other than statements of historical fact are, or may be deemed to be, forward-looking statements. Forward-looking statements are statements of future expectations that are based on management's current expectations and assumptions and involve known and unknown risks and uncertainties that could cause actual results, performance or events to differ materially from those expressed or implied in these statements. Forward-looking statements include, among other things, statements concerning the potential exposure of Royal Dutch Shell to market risks and statements expressing management's expectations, beliefs, estimates, forecasts, projections and assumptions. These forward-looking statements are identified by their use of terms and phrases such as ''anticipate'', ''believe'', ''could'', ''estimate'', ''expect'', ''intend'', ''may'', ''plan'', ''objectives'', ''outlook'', ''probably'', ''project'', ''will'', ''seek'', ''target'', ''risks'', ''goals'', ''should'' and similar terms and phrases. There are a number of factors that could affect the future operations of Royal Dutch Shell and could cause those results to differ materially from those expressed in the forward-looking statements included in this presentation, including (without limitation): (a) price fluctuations in crude oil and natural gas; (b) changes in demand for Shell's products; (c) currency fluctuations; (d) drilling and production results; (e) reserves estimates; (f) loss of market share and industry competition; (g) environmental and physical risks; (h) risks associated with the identification of suitable potential acquisition properties and targets, and successful negotiation and completion of such transactions; (i) the risk of doing business in developing countries and countries subject to international sanctions; (j) legislative, fiscal and regulatory developments including potential litigation and regulatory measures as a result of climate changes; (k) economic and financial market conditions in various countries and regions; (l) political risks, including the risks of expropriation and renegotiation of the terms of contracts with governmental entities, delays or advancements in the approval of projects and delays in the reimbursement for shared costs; and (m) changes in trading conditions. All forward-looking statements contained in this presentation are expressly qualified in their entirety by the cautionary statements contained or referred to in this section. Readers should not place undue reliance on forward-looking statements. Additional factors that may affect future results are contained in Royal Dutch Shell's 20-F for the year ended 31 December, 2015 (available at www.shell.com/investor and www.sec.gov). These factors also should be considered by the reader. Each forward-looking statement speaks only as of the date of this presentation, 19th April 2016. Neither Royal Dutch Shell nor any of its subsidiaries undertake any obligation to publicly update or revise any forward-looking statement as a result of new information, future events or other information. In light of these risks, results could differ materially from those stated, implied or inferred from the forward-looking statements contained in this presentation. There can be no assurance that dividend payments will match or exceed those set out in this presentation in the future, or that they will be made at all.

We use certain terms in this presentation, such as discovery potential, that the United States Securities and Exchange Commission (SEC) guidelines strictly prohibit us from including in filings with the SEC. U.S. Investors are urged to consider closely the disclosure in our Form 20-F, File No 1-32575, available on the SEC website www.sec.gov. You can also obtain this form from the SEC by calling 1-800-SEC-0330.

The Shell World Energy Model (WEM)

Balancing supply and demand in the context of 75 scenario based levers

Population	Choice function (logit) parameters
GDP	End-use & producer ‘fuel-convenience’
Energy source prices & regional gas prices	Refinery production potentials (GHCF etc)
Energy source taxes & CO_2 prices (& scope)	CTL & GTL production potentials
Energy service efficiency (4 dimensions)	Production efficiency (gains, limits)
Production efficiency	Biomass / biofuels supply potentials (5 types)
Technology cost projections	Supply – oil, gas, coal, nuclear (annual)
Energy carrier taxes & subsidies	Electric renewables – supply potentials
Technology viability dates – vehicles, biofuels	Centralised / Decentralised potentials
Energy Ladder – independent variables	Build rate checks – absolute and relative
Energy Ladder – 3 phase GDP & price curves	CCS – costs, performance & scope
Energy Ladder – banding, saturation (if appl)	Electricity – balancing production
End-use & producer legacy churn rate	Cars – deployment rate checks
End-use capital costs (incl floors)	Technology phase out rates (churn)

Combining the strengths of both economic and engineering modelling approaches

- Economic modelling
  - Aggregate energy demand growth
  - Substitution of energy carriers and sources
  - Non-monetary values of different energy forms
  - Connects world together and reveals dynamic effects

- Engineering modelling
  - Potential supply of energy sources – political or physical
  - Stock and equipment turnover
  - Practical constraints on technology build rates
  - Shows limits to trend extrapolation and keeps details honest

The WEM is designed to model the long-term transformation of the energy system at a detailed level

- How much might energy demand grow?
- Is 100% renewables possible this century?
- How does one country's energy developments affect others?
- How quickly can the transformation of the energy system take place?
- How are countries' import–export balances for oil and gas changing?
- To what extent do more efficient gasoline cars reduce or increase long-term oil demand?
- How might the use of natural gas change in the future?
- What is the scope for the use of biomass in the energy system?
- What contribution can different technologies make to CO_2 reduction?
- What are individual countries' energy policy options?

The Shell World Energy Model
High resolution for a top-down global model

100 YEARS

- TOTAL FINAL CONSUMPTION
- CONVERSION TECHNOLOGIES
- TOTAL PRIMARY ENERGY DEMAND
- ENERGY SUPPLY

100 COUNTRIES & REGIONS
(INC. 82 COUNTRIES INDIVIDUALLY)

- USA
- CHINA
- RUSSIA
- INDIA
- JAPAN
- GERMANY
- FRANCE
- CANADA
- UNITED KINGDOM
- ⋮
- OMAN
- AZERBAIJAN
- MOROCCO
- PERU
- MOZAMBIQUE
- ECUADOR
- ANGOLA
- YEMEN
- LUXEMBOURG
- REST OF EUROPE WEST OTHER
- REST OF EUROPE EAST OTHER
- REST OF EU NEW 13
- BALTIC STATES
- REST OF CENTRAL ASIA
- REST OF EAST ASIA
- REST OF SE ASIA
- REST OF SOUTH ASIA
- REST OF MIDDLE EAST
- REST OF ARABIAN PENINSULA
- REST OF NORTH AFRICA
- REST OF AFRICA
- REST OF SOUTHERN AFRICA
- REST OF WEST AFRICA
- REST OF NORTH AMERICA
- REST OF CENTRAL AMERICA & CARIBBEAN
- REST OF SOUTH AMERICA
- REST OF OCEANIA

14 SECTORS

- HEAVY INDUSTRY
- AGRICULTURE & OTHER INDUSTRY
- SERVICES
- PASSENGER TRANSPORT – SHIP
- PASSENGER TRANSPORT – RAIL
- PASSENGER TRANSPORT – ROAD
- PASSENGER TRANSPORT – AIR
- FREIGHT TRANSPORT – SHIP
- FREIGHT TRANSPORT – RAIL
- FREIGHT TRANSPORT – ROAD
- FREIGHT TRANSPORT – AIR
- RESIDENTIAL – HEATING & COOKING
- RESIDENTIAL – LIGHTING & APPLIANCES
- NON ENERGY USE

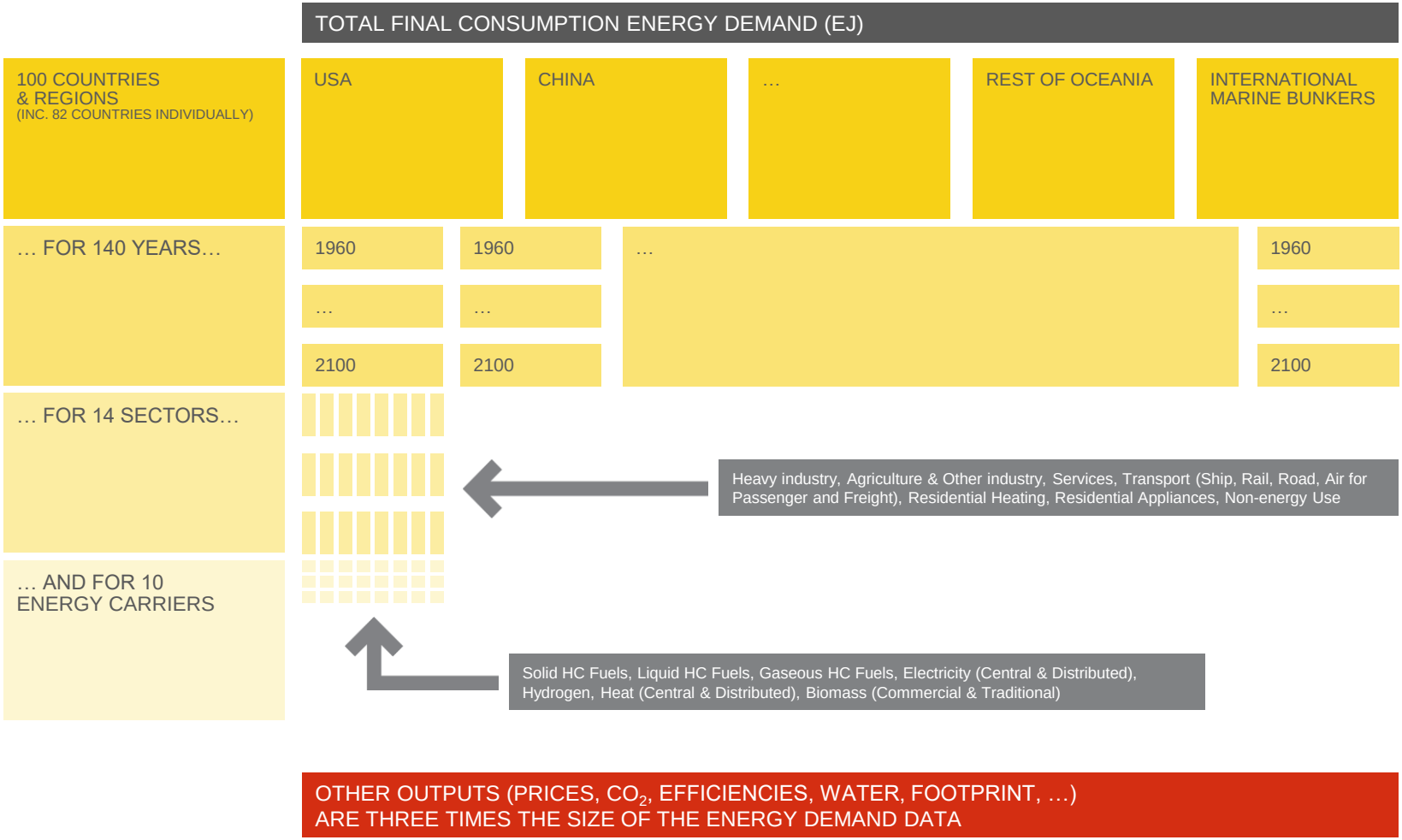
10 ENERGY CARRIERS

- SOLID HYDROCARBON FUELS
- LIQUID HYDROCARBON FUELS
- GASEOUS HYDROCARBON FUELS
- ELECTRICITY – COMMERCIAL
- ELECTRICITY – DISTRIBUTED SOLAR PV
- HYDROGEN
- HEAT – COMMERCIAL
- HEAT – DISTRIBUTED SOLAR THERMAL
- BIOMASS – COMMERCIAL
- BIOMASS – TRADITIONAL

18 ENERGY SOURCES

- OIL
- NATURAL GAS
- COAL
- NUCLEAR
- HYDRO-ELECTRICITY
- BIO-FUELS – 1ST GEN
- BIO-FUELS – 2ND GEN
- BIO-FUELS – MARINE
- BIOMASS – TRADITIONAL
- BIOMASS – COMMERCIAL
- WASTE
- GEOTHERMAL – HYDROTHERMAL
- GEOTHERMAL – ENGINEERED
- SOLAR – PHOTOVOLTAIC
- WIND
- TIDAL
- WAVE

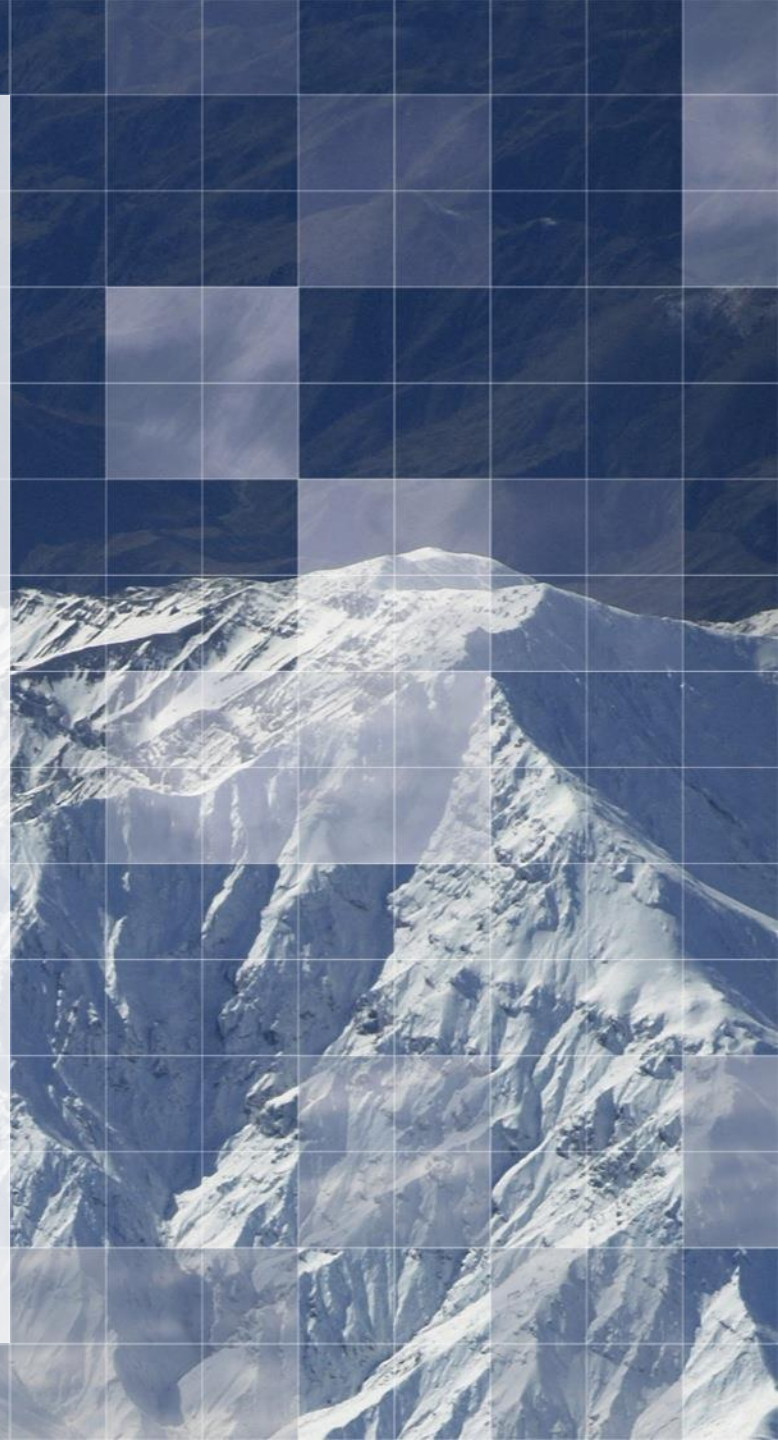
Substantial outputs to handle efficiently: the energy demand tables alone have 2.6 million elements




MOUNTAINS
OCEANS

MOUNTAINS
A view from the top

- Influence concentrates amongst the already powerful, as advantage brings more advantage
- Economic development slowed by rigidities in structures and institutions
- However, some secondary policy developments facilitated

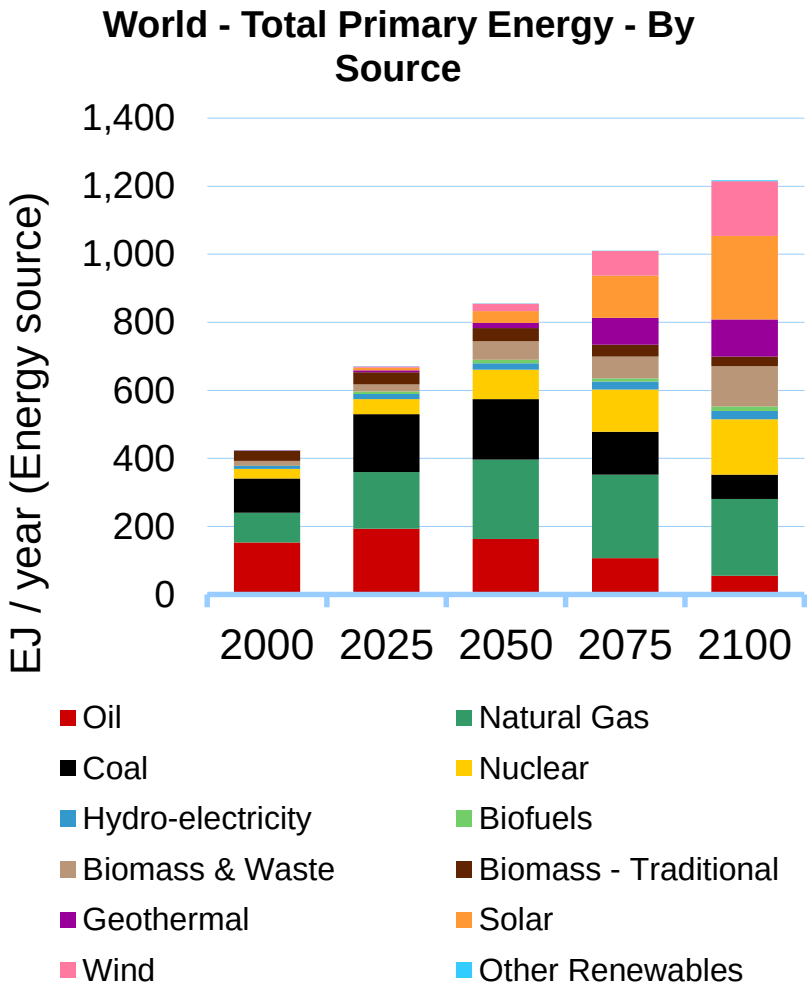


OCEANS
A view from the horizon

- Emerging interests intermittently accommodated
- Core reforms unleash growth – and expectations for further reform
- Markets dominate
- However, more empowered constituencies hinder some secondary policy advancement

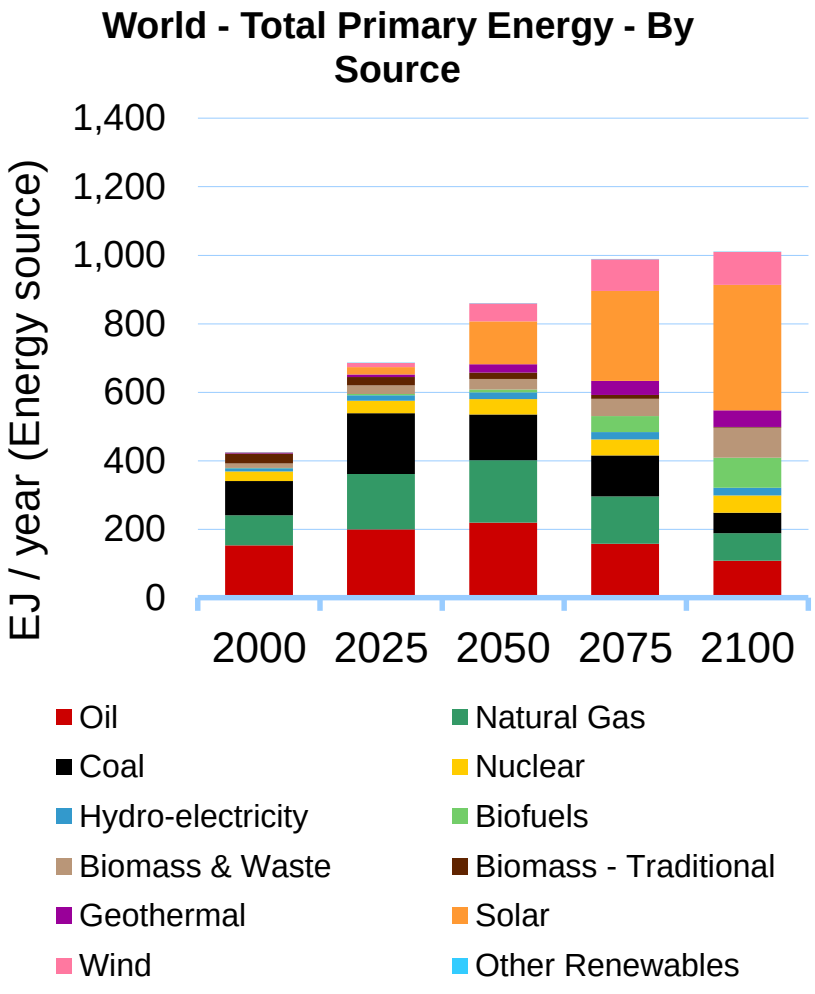
New Lens Scenarios – Total Primary Energy Demand

MOUNTAINS



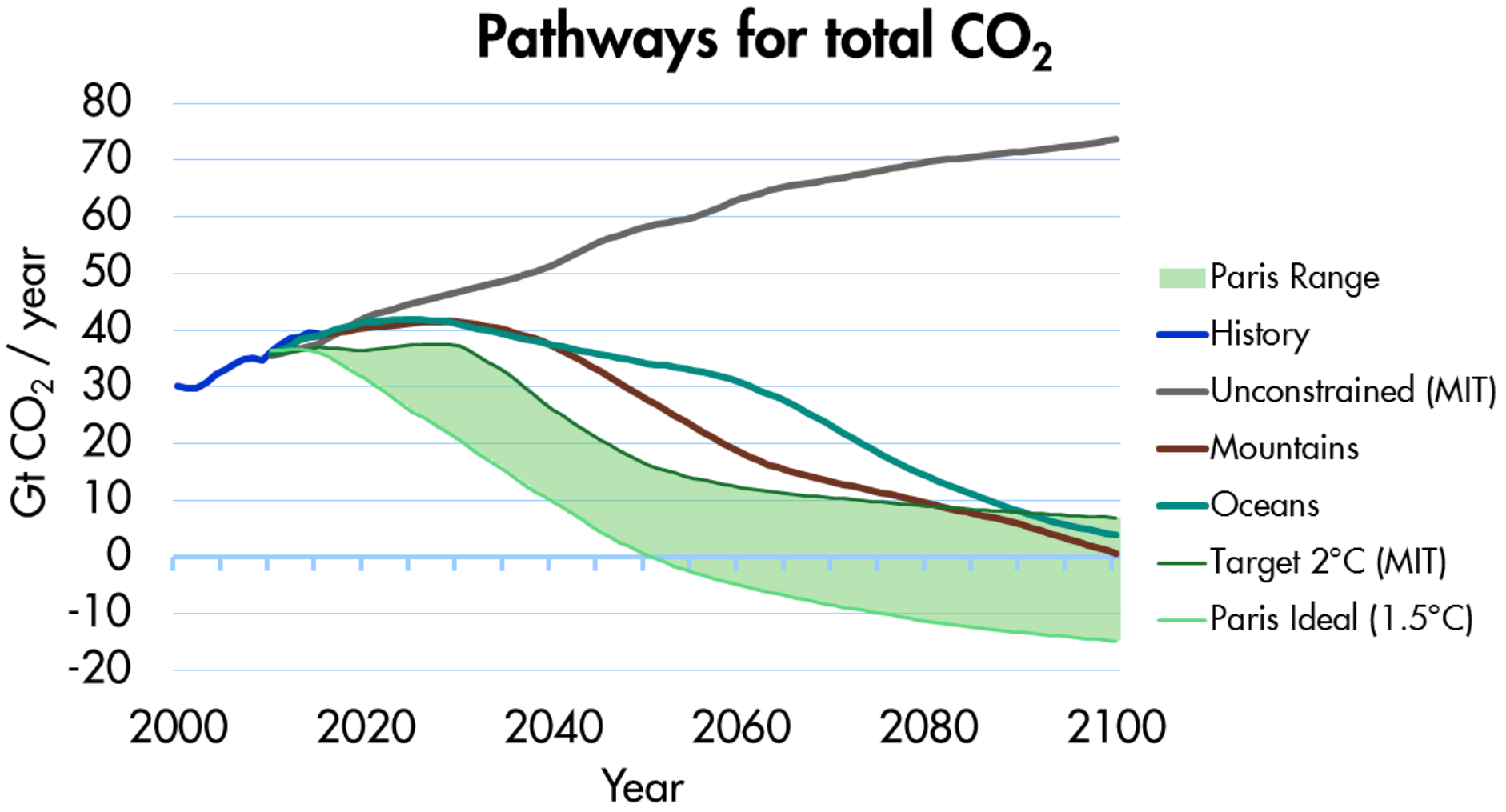
FSB Energy - Shell WEM v2.5.20 - Mountains - Balanced

OCEANS

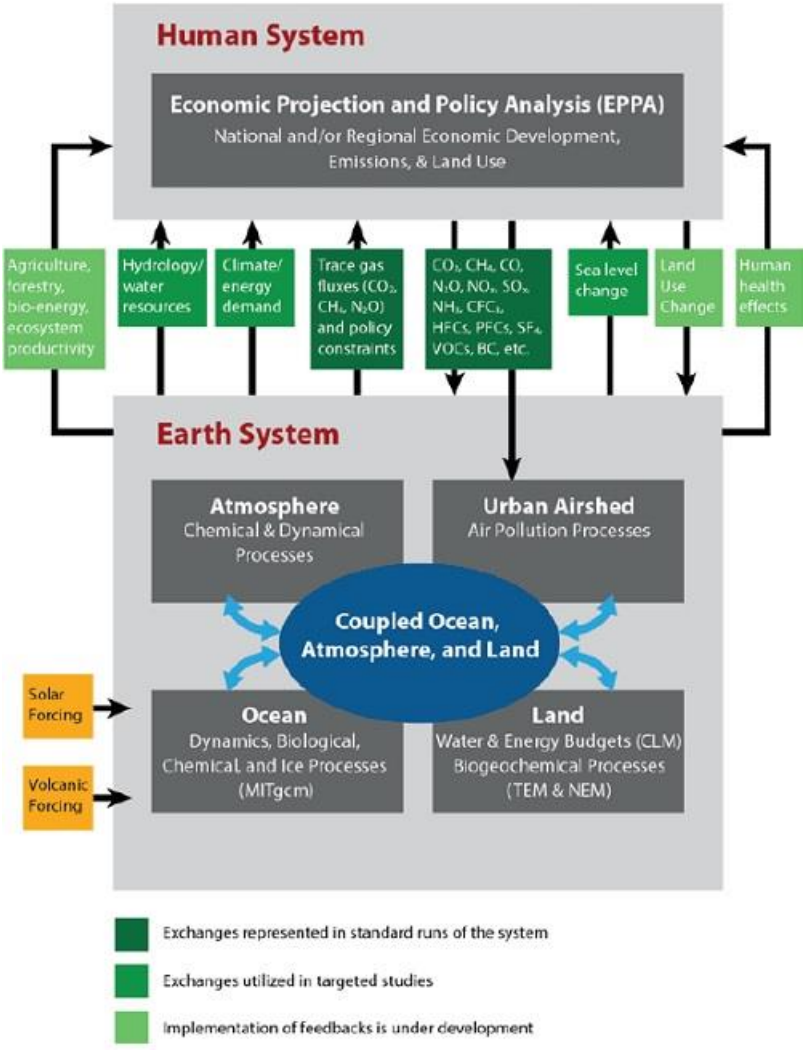


FSB Energy - Shell WEM v2.5.20 - Oceans – Balanced NZE

The scenarios in the context of the Paris Agreement



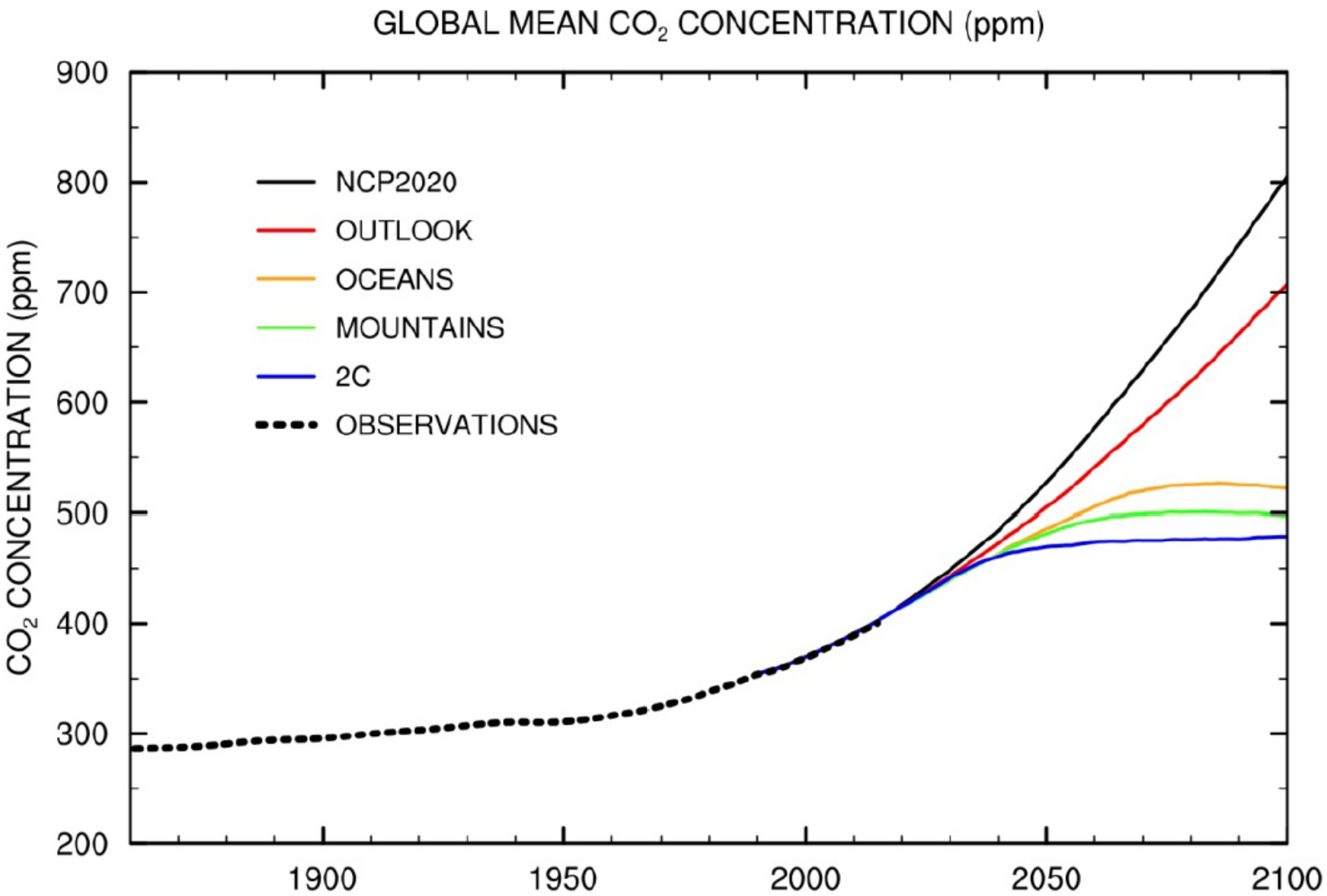
Working with the MIT Joint Program on the Science and Policy of Global Change



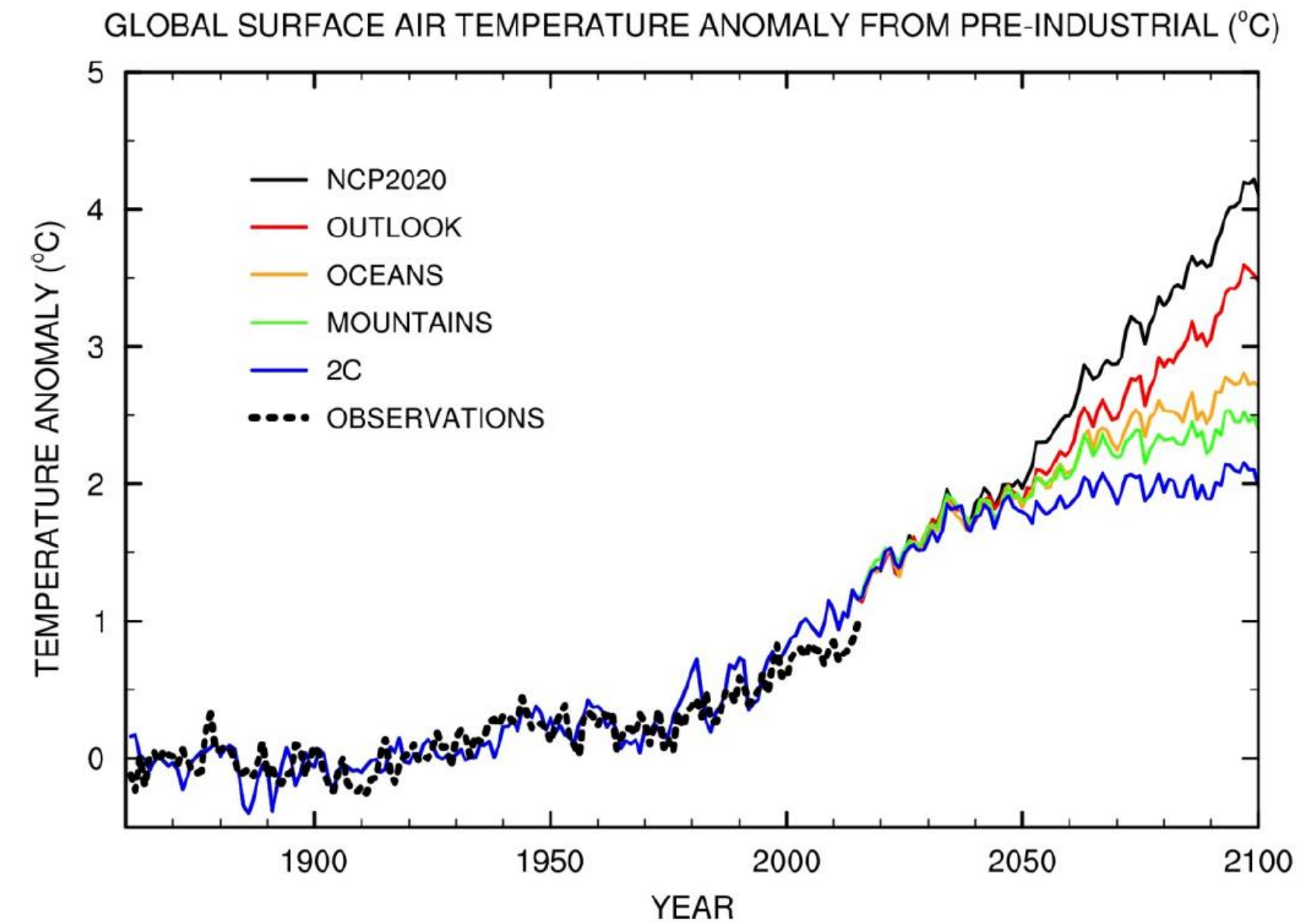
Aspects studied

- Global CO_2 concentrations and temperatures
- Global precipitation
- Ocean acidity and sea-level rise
- Water stress
- Air quality impacts
- Agricultural yield changes

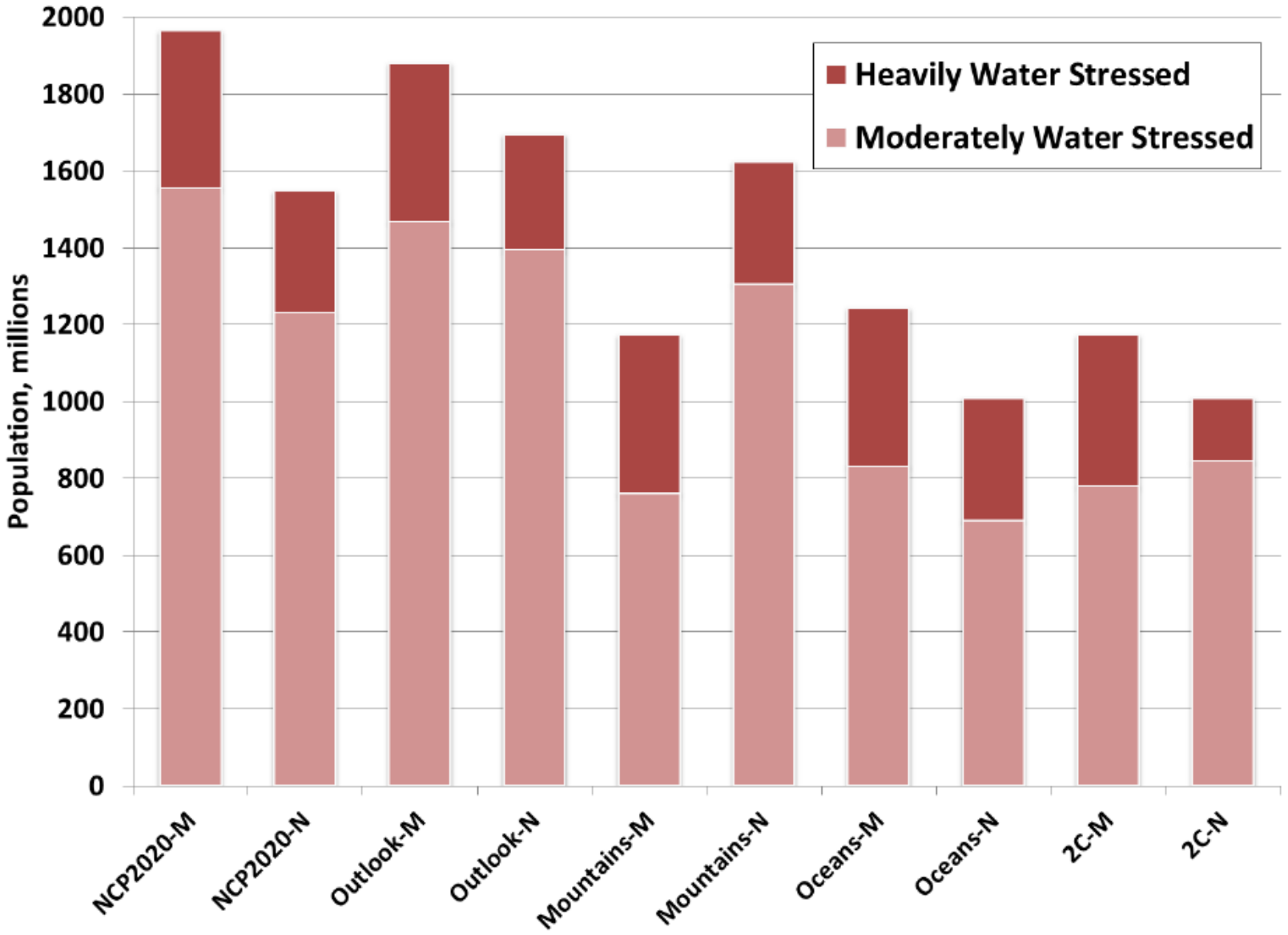
Global Mean CO_2 Concentration



Global surface temperature anomaly vs. pre-industrial



Water stress analysis



Questions