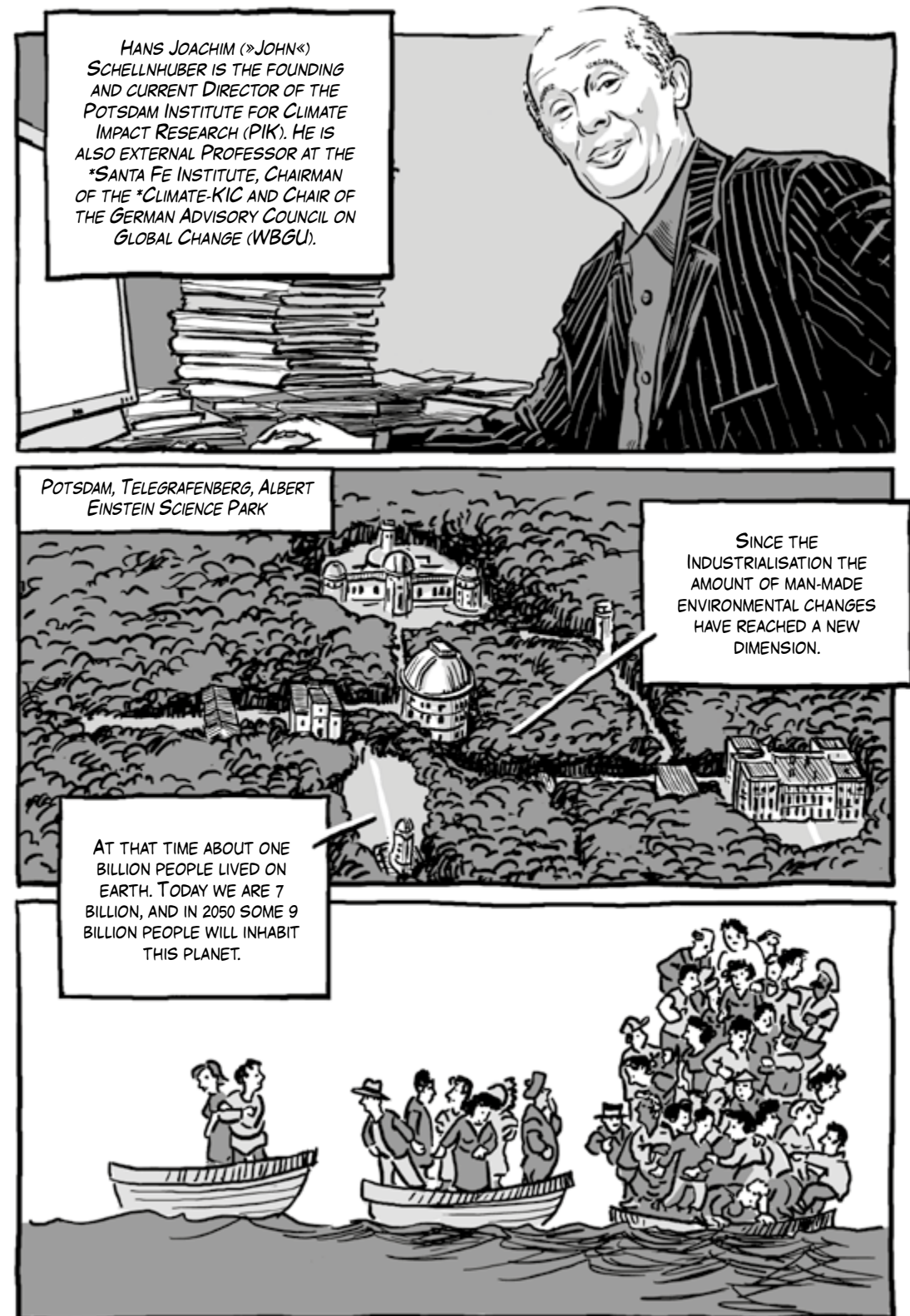


# **THE GREAT TRANSFORMATION**

## **CLIMATE — CAN WE BEAT THE HEAT?**

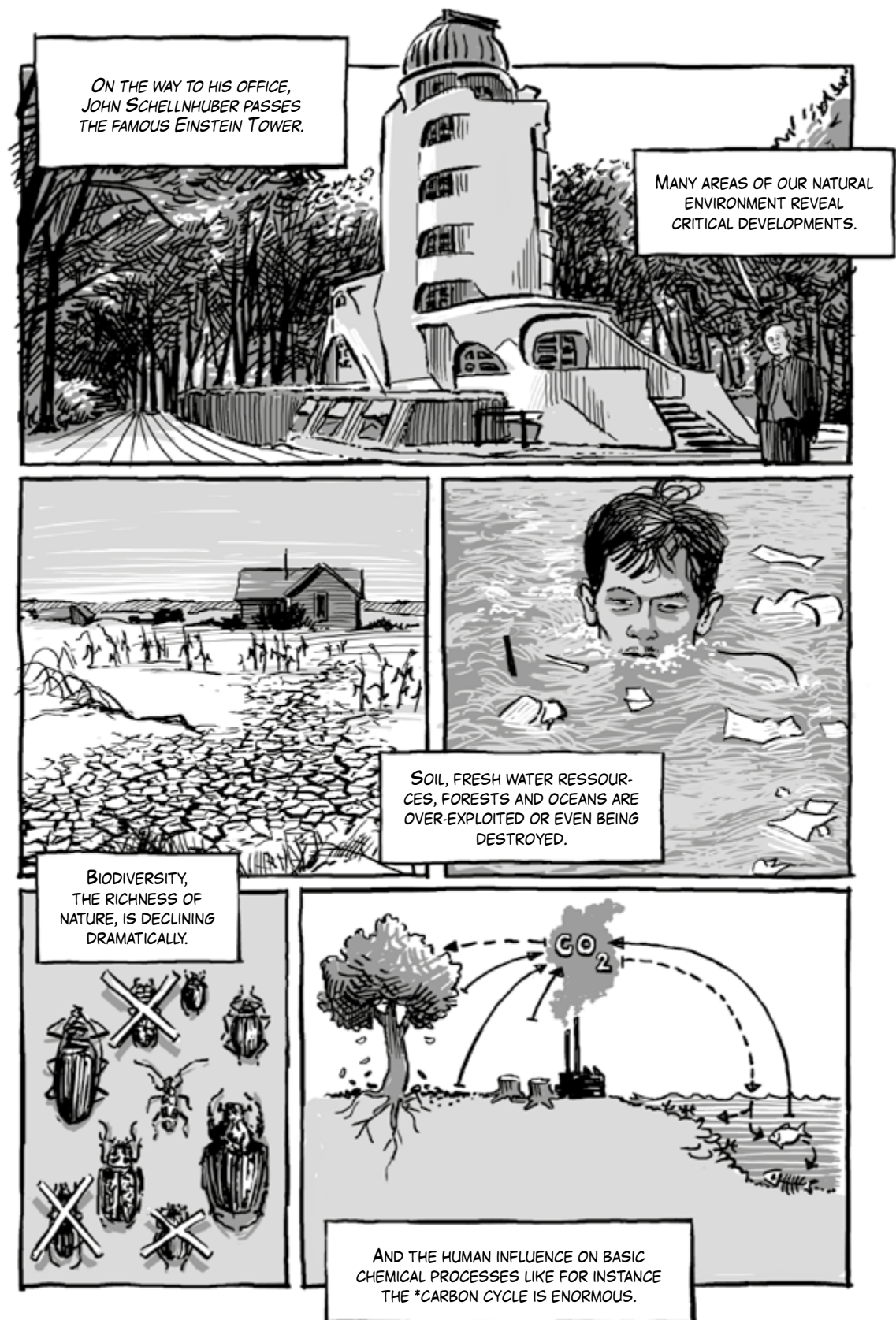
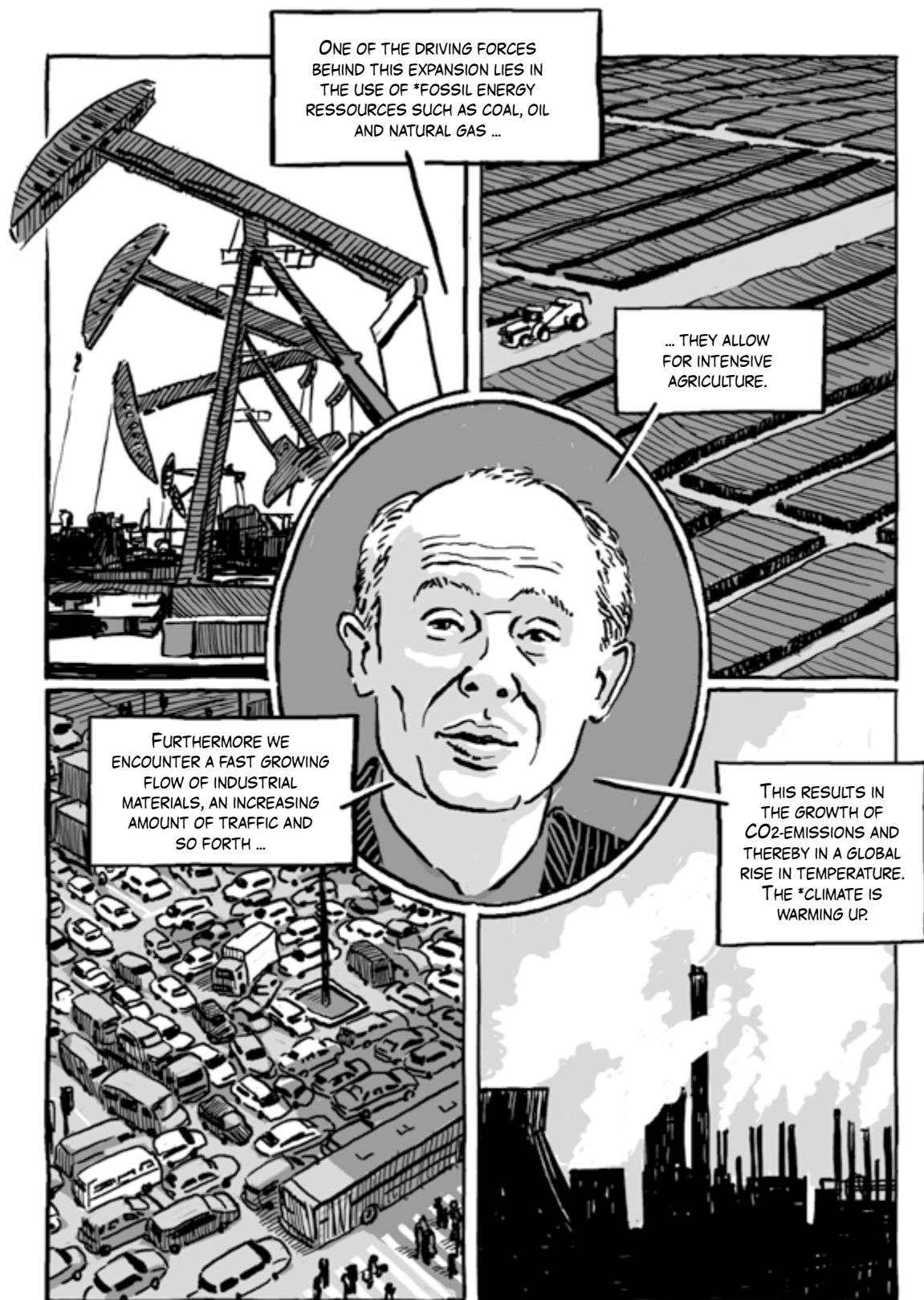
# CHAPTER 1

## WHY WE HAVE TO TRANSFORM OURSELVES

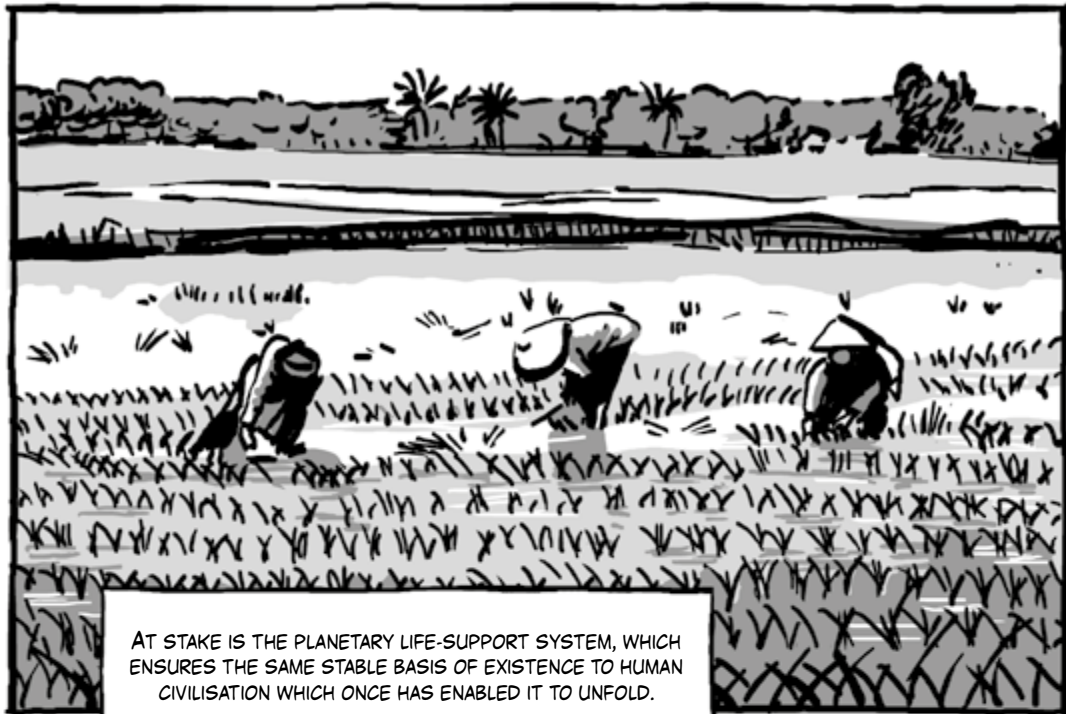


\*Names and terms marked by an \* are explained in the glossary of this book









AT STAKE IS THE PLANETARY LIFE-SUPPORT SYSTEM, WHICH ENSURES THE SAME STABLE BASIS OF EXISTENCE TO HUMAN CIVILISATION WHICH ONCE HAS ENABLED IT TO UNFOLD.



IF WE DO NOT »TURN THE CORNER« WE SHALL COLLIDE WITH THE \*PLANETARY BOUNDARIES.



HERE, AN ENERGY-OPTIMISED OFFICE BUILDING IS BEING CONSTRUCTED.

IN ORDER TO ALTER OUR COURSE AND TO PREVENT THE EARTH SYSTEM FROM BREAKING DOWN, WE MUST REINVENT OURSELVES.

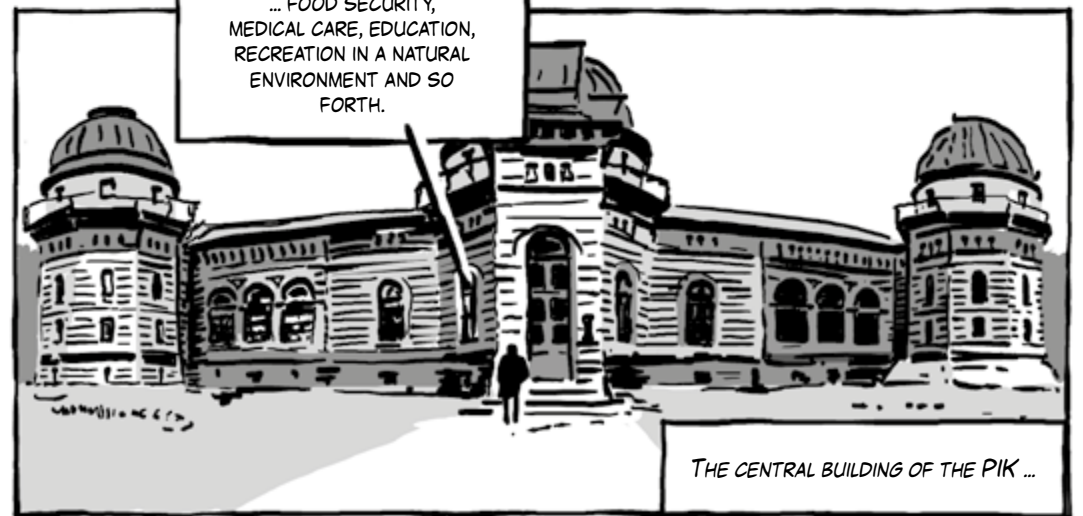


THE »GREAT REFRACTOR« IS THE MAIN TELESCOPE OF THE ASTROPHYSICAL OBSERVATORY.

WE NEED A CHANGE TOWARDS \*SUSTAINABLE DEVELOPMENT ...



FOR ME SUSTAINABLE DEVELOPMENT COMPRISES CERTAIN FUNDAMENTAL VALUES AND RIGHTS, SUCH AS ...



... FOOD SECURITY, MEDICAL CARE, EDUCATION, RECREATION IN A NATURAL ENVIRONMENT AND SO FORTH.

THE CENTRAL BUILDING OF THE PIK ...

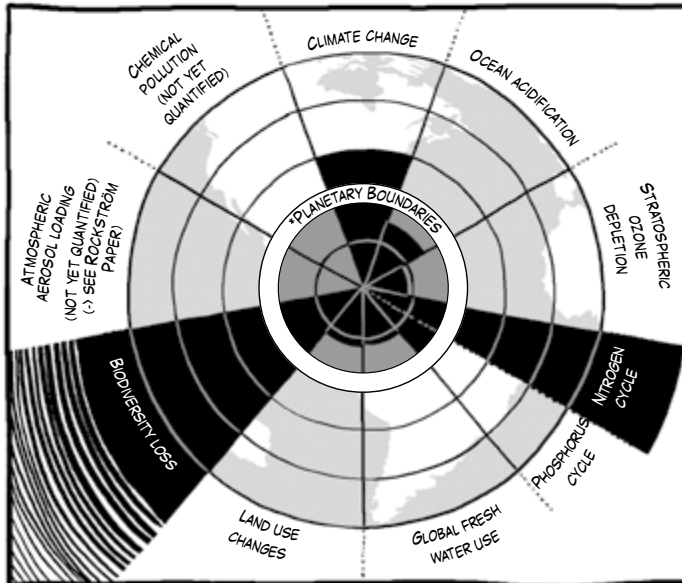




RIGHT NOW A CONFERENCE OF THE WBGU IS TAKING PLACE.

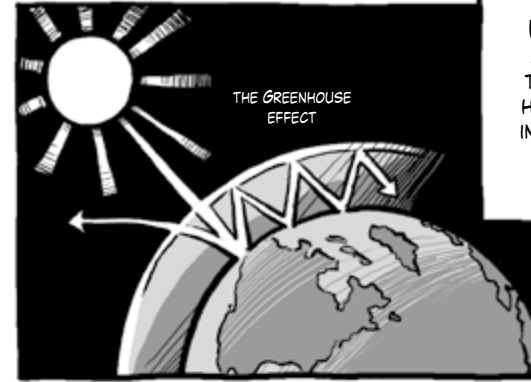


SINCE 1994 THE WBGU IDENTIFIED THE »PLANETARY BOUNDARIES« FOR CLIMATE CHANGE AS WELL AS FOR BIODIVERSITY AND OTHER AREAS OF GLOBAL CHANGE.



THE WBGU DESCRIBES THESE PLANETARY BOUNDARIES AS MEASURABLE DAMAGE LIMITS. ONCE THEY ARE TRANSGRESSED THE IMMEDIATE OR FUTURE CONSEQUENCES WOULD BE INTOLERABLE AND PUT OUR CIVILISATION AT RISK. STAYING WITHIN THE BOUNDARIES MEANS, SO TO SPEAK, STAYING SAFE.

Source: Rockström et al., 2009



THE GREENHOUSE EFFECT

FOR INSTANCE, THE 2 °C-CLIMATE PROTECTION GUARDRAIL HAS BEEN PICKED UP INTERNATIONALLY AND ADOPTED BY MANY NATIONS.



I AM REALLY CONCERNED THAT THE PROGRESS WE MADE INTERNATIONALLY WAS NOT AS SUBSTANTIAL AS IT WOULD HAVE BEEN NECESSARY.

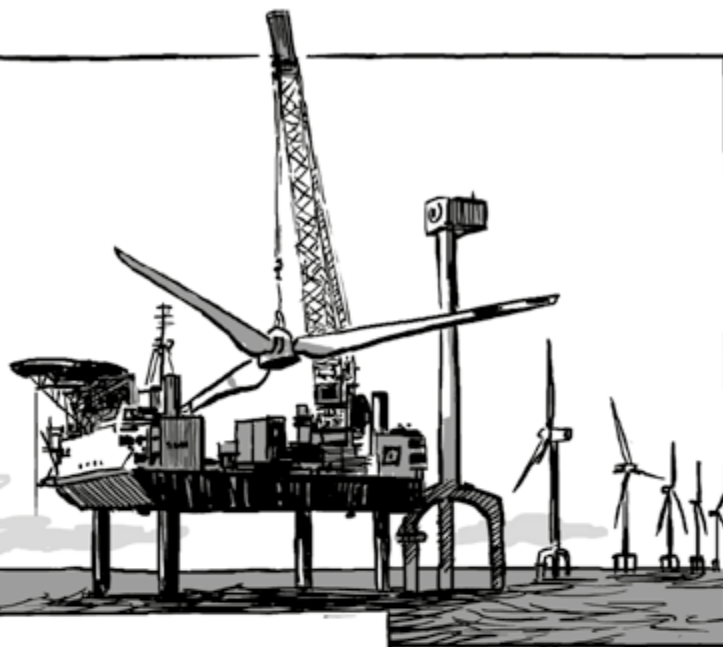
IT MEANS THAT GLOBAL WARMING MUST BE KEPT BELOW 2 °C IN ORDER TO ALLOW US TO SUCCESSFULLY DEAL WITH THE CONSEQUENCES OF THE RISE OF TEMPERATURE.



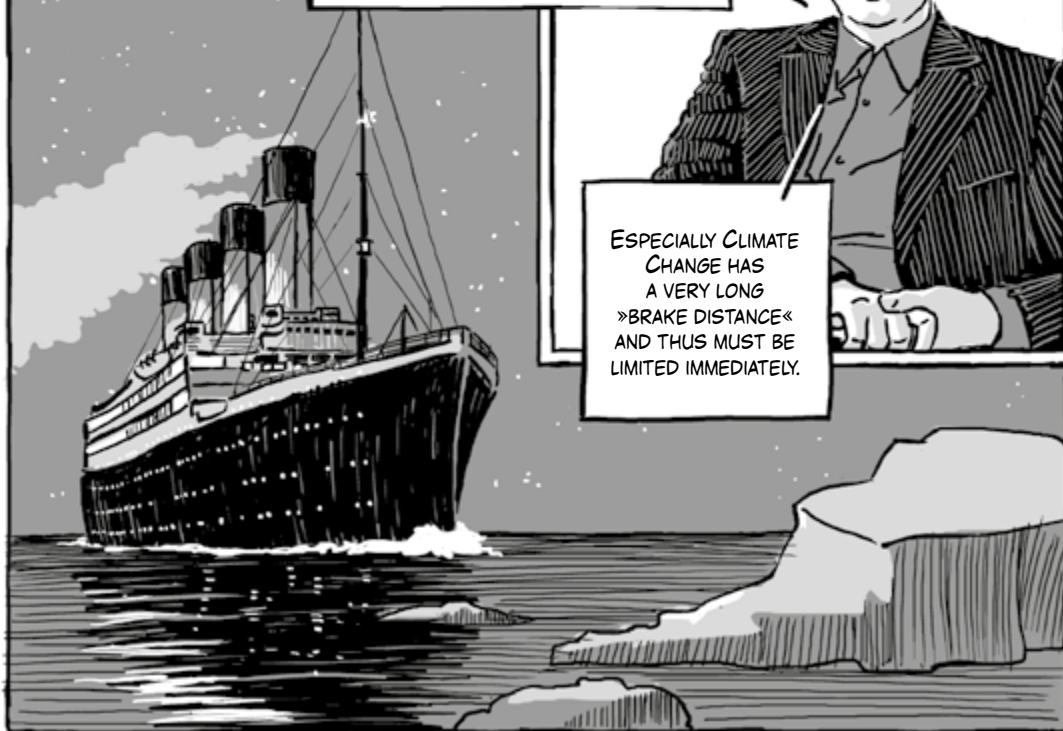
A COMPARISON: IF THE TEMPERATURE OF THE HUMAN BODY INCREASES BY ONLY 2 °C, WE CALL IT FEVER. WHEN THE TEMPERATURE EXCEEDS 40 °C, ONE ORGAN AFTER THE OTHER BREAKS DOWN, AND FINALLY THE WHOLE SYSTEM »HUMAN BEING« COLLAPSES.



FIRST OF ALL WE HAVE TO  
\*DECARBONISE THE ENERGY  
SYSTEMS WORLDWIDE  
WHICH MEANS REPLACING  
FOSSIL RESSOURCES BY  
RENEWABLE ONES IN ORDER  
TO LIMIT GLOBAL WARMING  
TO A MAXIMUM OF 2 °C.

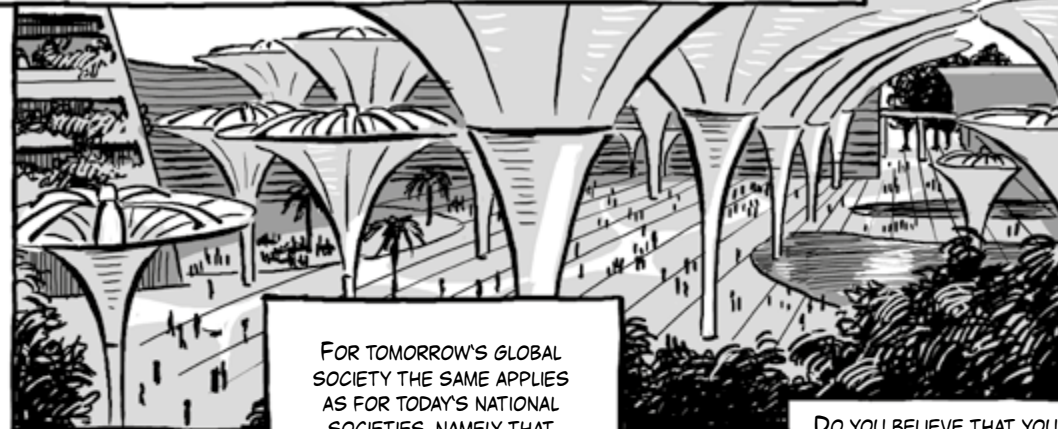


THIS WILL ONLY BE POSSIBLE  
IF EVERY SINGLE PERSON IS  
PREPARED TO QUESTION HIS OR  
HER WAY OF LIFE. IN ORDER TO  
BE ABLE TO STAY WITHIN THE  
BOUNDARIES WE HAVE TO PUT  
THINGS ON THE RIGHT TRACK IN  
THIS DECADE!



ESPECIALLY CLIMATE  
CHANGE HAS  
A VERY LONG  
»BRAKE DISTANCE«  
AND THUS MUST BE  
LIMITED IMMEDIATELY.

SUCH FUNDAMENTAL PROCESSES OF CHANGE NEED CREATIVITY AND INNOVATION.  
AND - ABOVE ALL - A WORLD SOCIETY OF GLOBAL CITIZENS THAT PRESSES AHEAD  
WITH SOLVING PROBLEMS THAT CANNOT BE SOLVED BY SINGLE COUNTRIES.



FOR TOMORROW'S GLOBAL  
SOCIETY THE SAME APPLIES  
AS FOR TODAY'S NATIONAL  
SOCIETIES, NAMELY THAT  
THE RIGHTS OF FUTURE  
GENERATIONS ARE TAKEN INTO  
ACCOUNT. IN MY LECTURES I  
ALWAYS ASK THREE SPECIFIC  
QUESTIONS:

DO YOU BELIEVE THAT YOU  
ARE BETTER OFF THAN  
YOUR GRANDPARENTS WERE  
AT THEIR TIME?

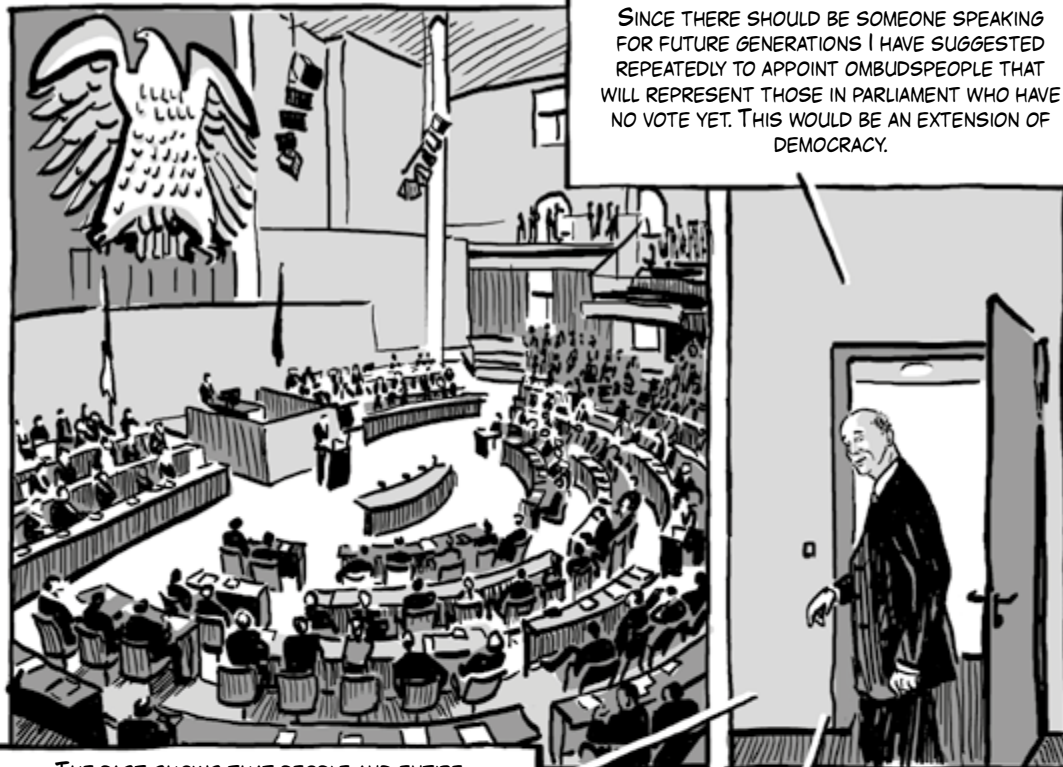


DO YOU THINK YOUR  
GRANDCHILDREN  
WILL BE BETTER OFF  
THAN YOU ARE NOW?

DO YOU THINK THIS  
IS OKAY?







SINCE THERE SHOULD BE SOMEONE SPEAKING FOR FUTURE GENERATIONS I HAVE SUGGESTED REPEATEDLY TO APPOINT OMBUDSPEOPLE THAT WILL REPRESENT THOSE IN PARLIAMENT WHO HAVE NO VOTE YET. THIS WOULD BE AN EXTENSION OF DEMOCRACY.

THE PAST SHOWS THAT PEOPLE AND ENTIRE CIVILISATIONS HAVE THE ABILITY TO CHANGE. FOR INSTANCE, AROUND 11,000 YEARS AGO PEOPLE STARTED TO PURSUE ...



STONE AGE

... AGRICULTURE AND STOCK FARMING. THEY CHANGED FROM A NOMADIC TO A SEDENTARY SOCIETY. THIS ALSO BECAME POSSIBLE BECAUSE THE CLIMATE HAD STABILIZED AND GROWN INTO A RELIABLE FACTOR.



NEOLITHIC AGE



THE SECOND GREAT CULTURAL CHANGE HAPPENED SOME 250 YEARS AGO: THE INDUSTRIAL REVOLUTION. THIS WAS WHEN THE AGE OF FOSSIL FUELS STARTED.