

# Auf dem Weg zu Grünen Museum

Stefan Simon

05/17/22  
Berlin



Rathgen-Forschungslabor  
Staatliche Museen zu Berlin

Forschungsallianz  
**Kulturerbe**





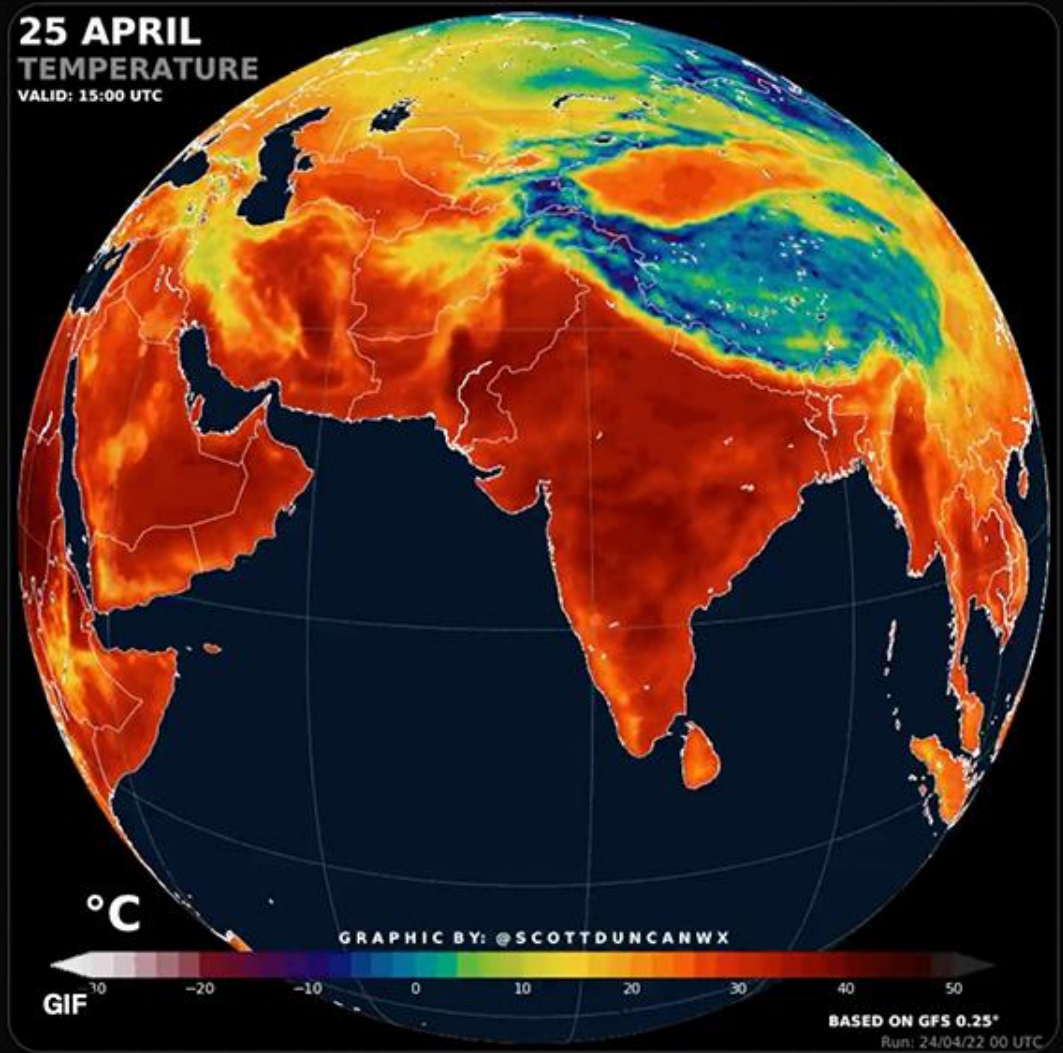
Scott Duncan @ScottDuncanWX · 28m

Scorching & dangerous heat on the way for India & Pakistan.

Temperatures will approach April record levels. The high 40s Celsius are expected, parts of Pakistan close to 50°C.

It has been hot here for a very long time now... since early March.

**25 APRIL**  
TEMPERATURE  
VALID: 15:00 UTC

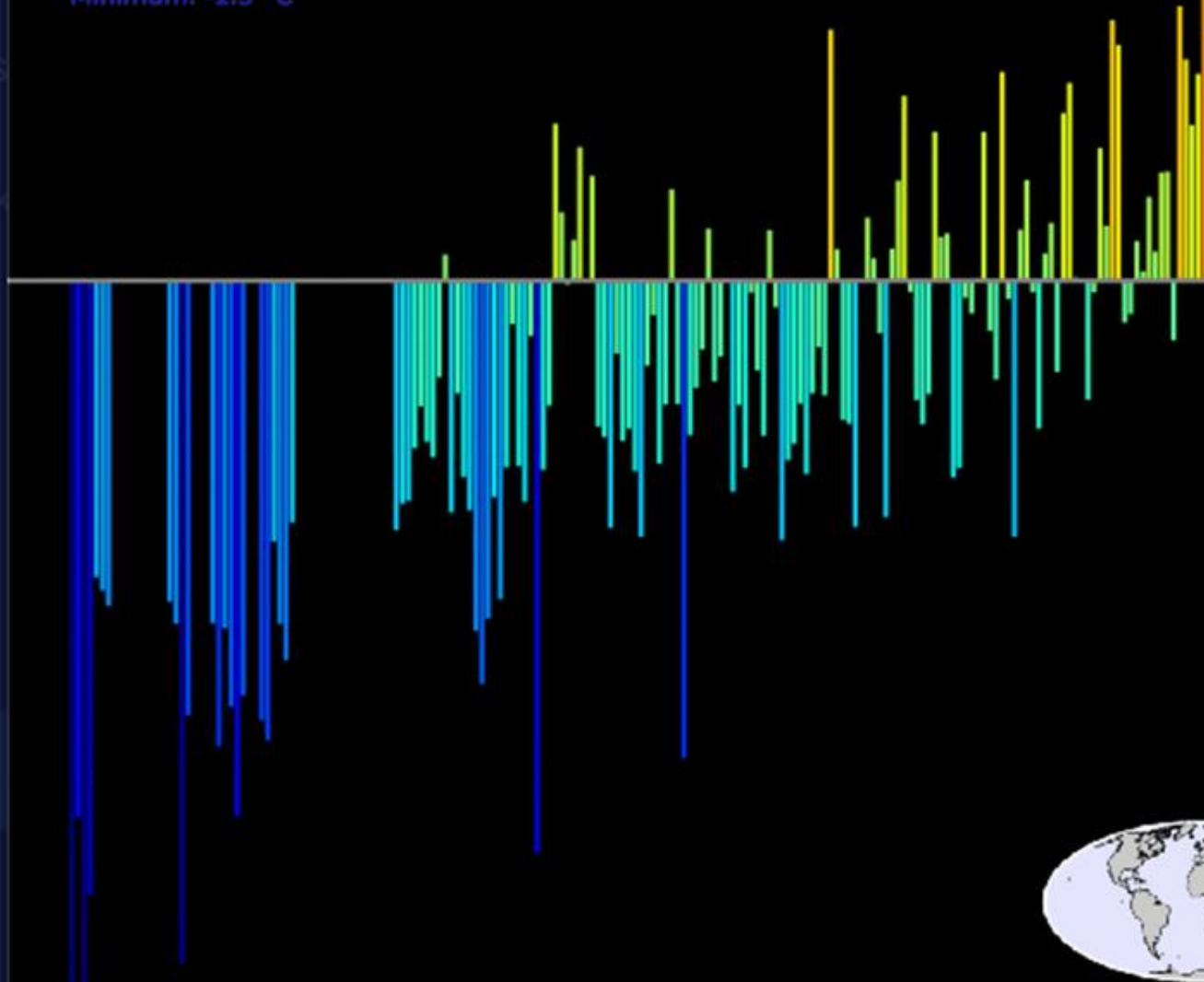


# India



1816 - 2020  
temperature change  
year average

Maximum: +1.1 °C  
Minimum: -1.5 °C



Graphic: @SCOTTDUNCANWX

Anomalies relative to the 1951-1980 average

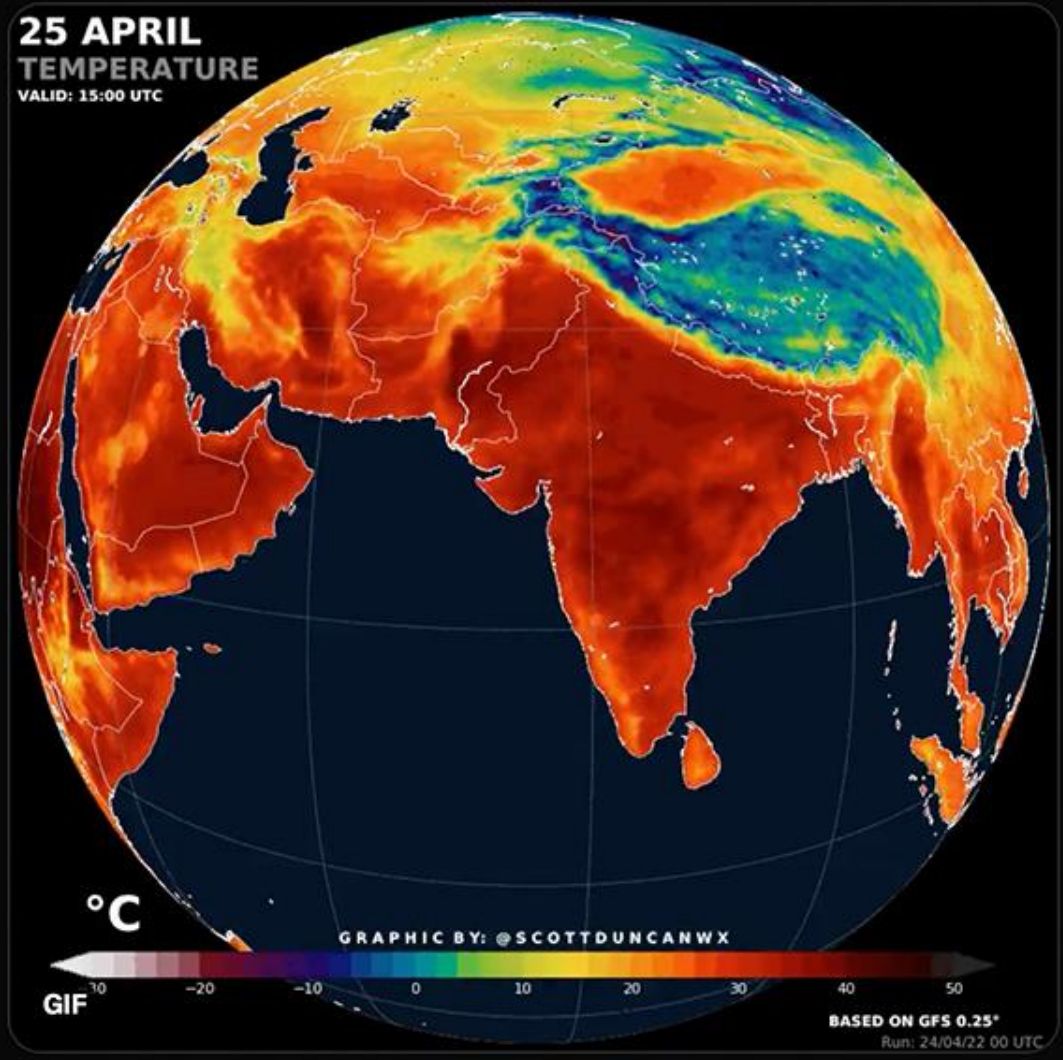


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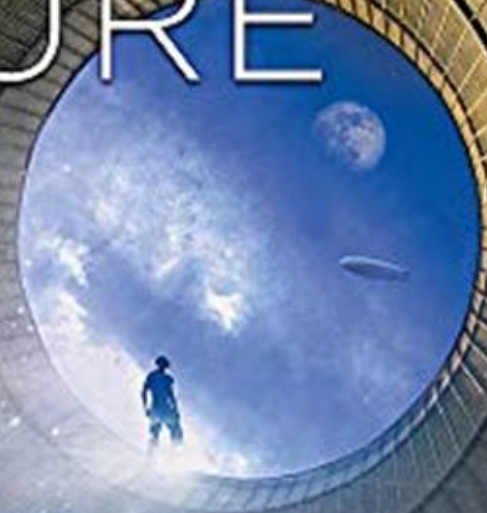


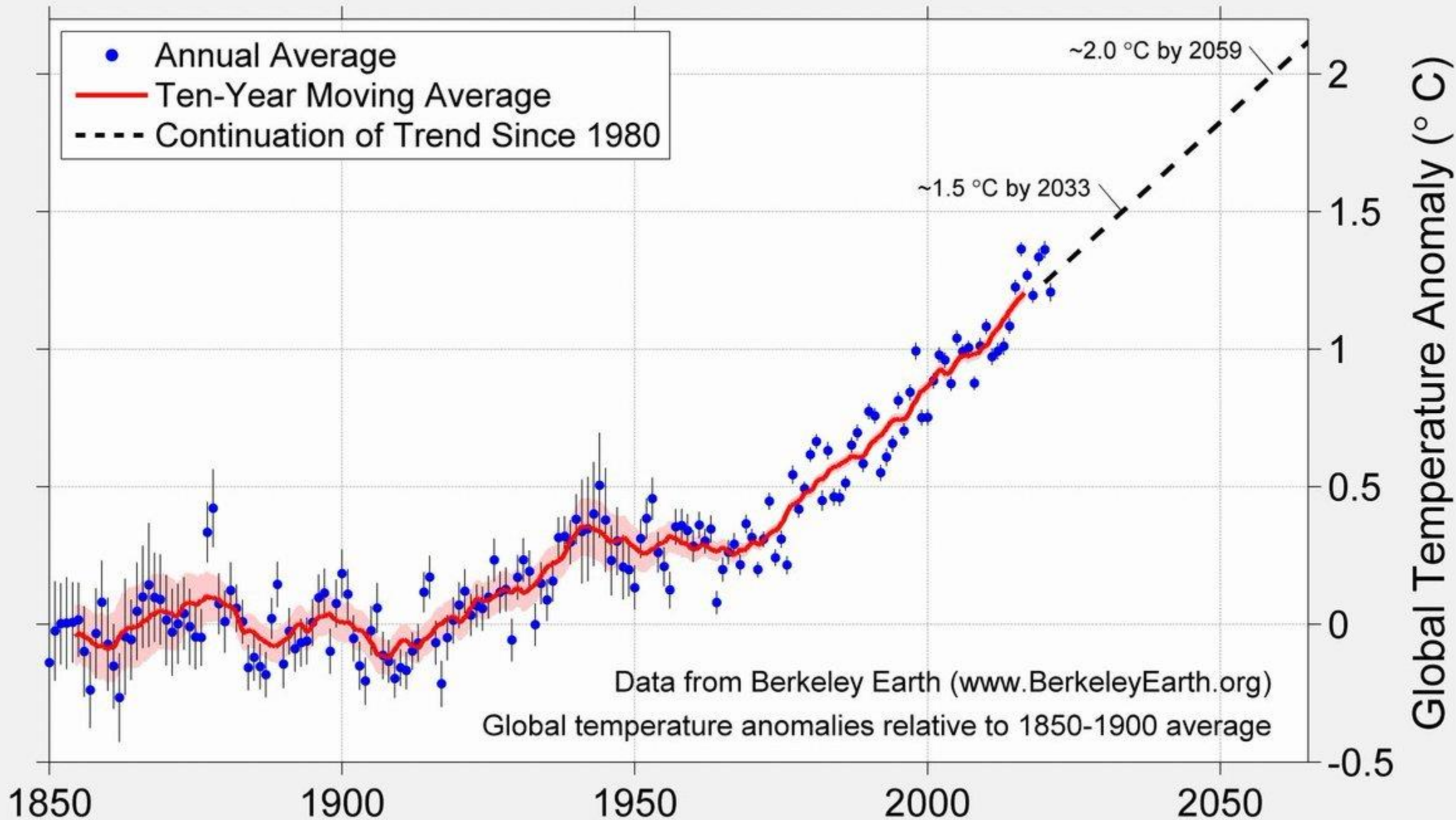
# THE MINISTRY FOR THE FUTURE

# KIM STANLEY ROBINSON

'ROBINSON IS ONE OF OUR BEST, BRAVEST, MOST MORAL AND MOST HOPEFUL STORYTELLERS'  
NEW YORKER

'ONE OF THE WORLD'S FINEST WORKING NOVELISTS, IN ANY GENRE'  
GUARDIAN







## SPIRIT ROCK

TO THIS ROCK THE MENOMINEE TRIBE  
BROUGHT THEIR GIFTS TO THE GREAT  
SPIRIT. THE PIGANS BELIEVED THAT  
THE DRINKING OF THE ROCK PURIFIED  
THE DRINKING OF THE ROCK AND THAT UPON  
COMPLETE DESTRUCTION THE ROCK WILL  
BE EXTINCT



Messin Photo  
257450

SPIRIT ROCK - ROUTE 55 - MEMO MINEE RESERVATION



Short Drive from Shawano, Wisconsin off Highway 55.



Alle reden von  
Deutschland.  
Wir reden vom  
Wetter:

Saurer Regen.  
Ozonloch. Smog.  
Klimakatastrophe...

Wir wollen ein besseres Klima

**DIE GRÜNEN** 

Wahlplakat, Die Grünen, 1990



Dialogues for the New Century - Discussions on the conservation of cultural heritage in a changing world

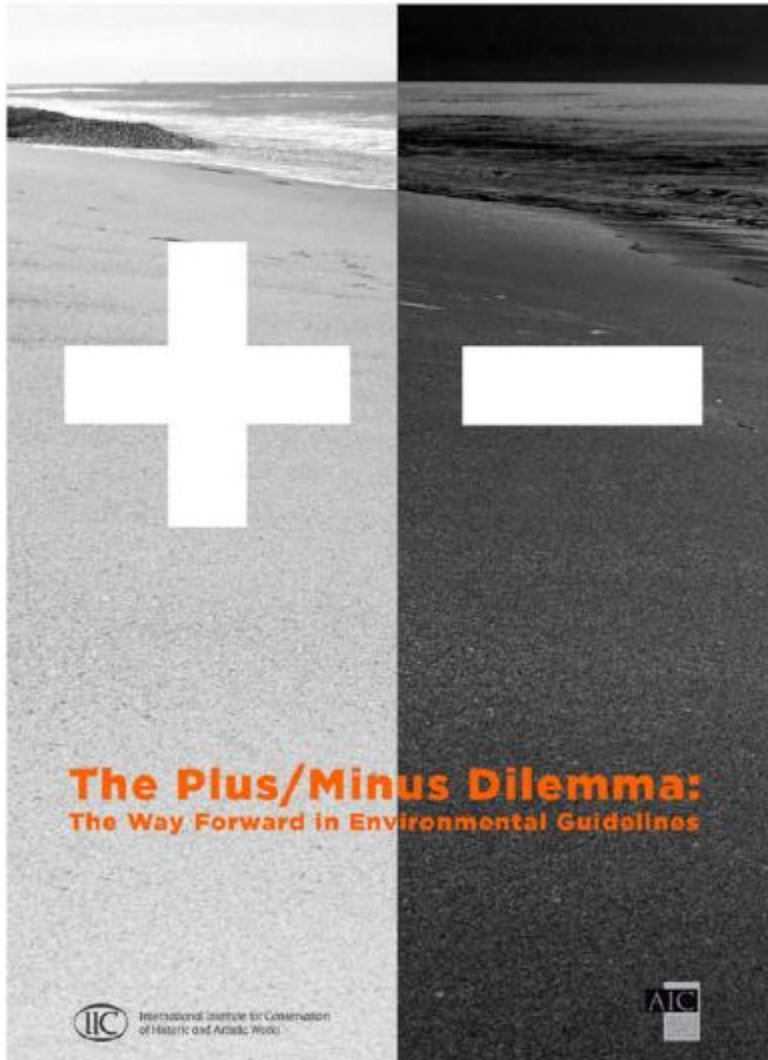
CLIMATE CHANGE AND MUSEUM COLLECTIONS

17.9. 2008, The National Gallery, London





The International Institute for Conservation of Historic and Artistic Works  
*Dialogues for the New Century*  
Discussions on the conservation of cultural heritage in a changing world



“Given the looming energy crisis, the global economic downturn, and the rising awareness of green technology equating to good stewardship of our natural resources, **responsible and efficient environmental control has become essential.**”

AIC Annual Meeting in Milwaukee, WI on May 13, 2010.



## **Stable is safe. The Munich Position on Climate and Cultural Heritage**

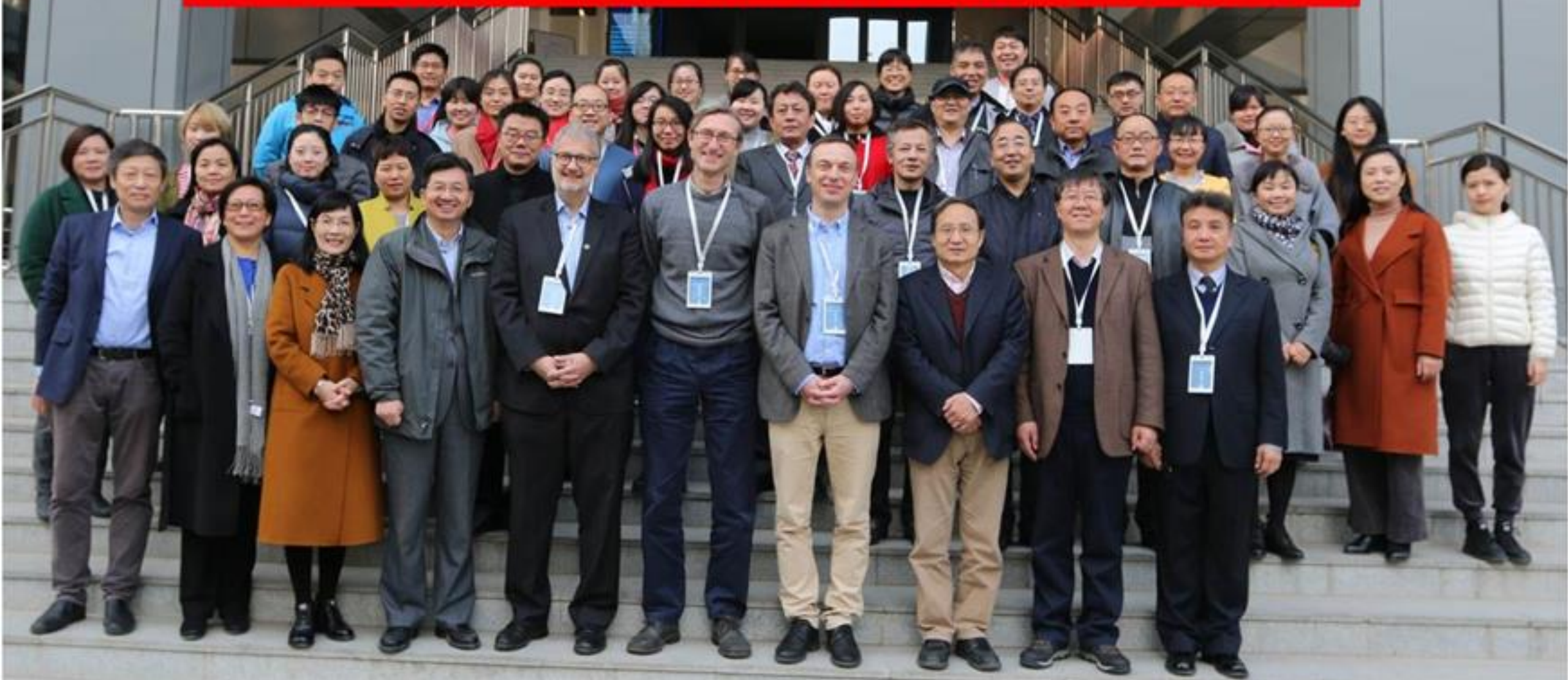
Andreas Burmester and Melanie Eibl  
Doerner Institut Munich

HERITAGE SCIENCE AND SUSTAINABLE DEVELOPMENT  
FOR THE PRESERVATION OF ART AND CULTURAL ASSETS  
- ON THE WAY TO THE **GREEN** MUSEUM

**International Scientific Workshop**

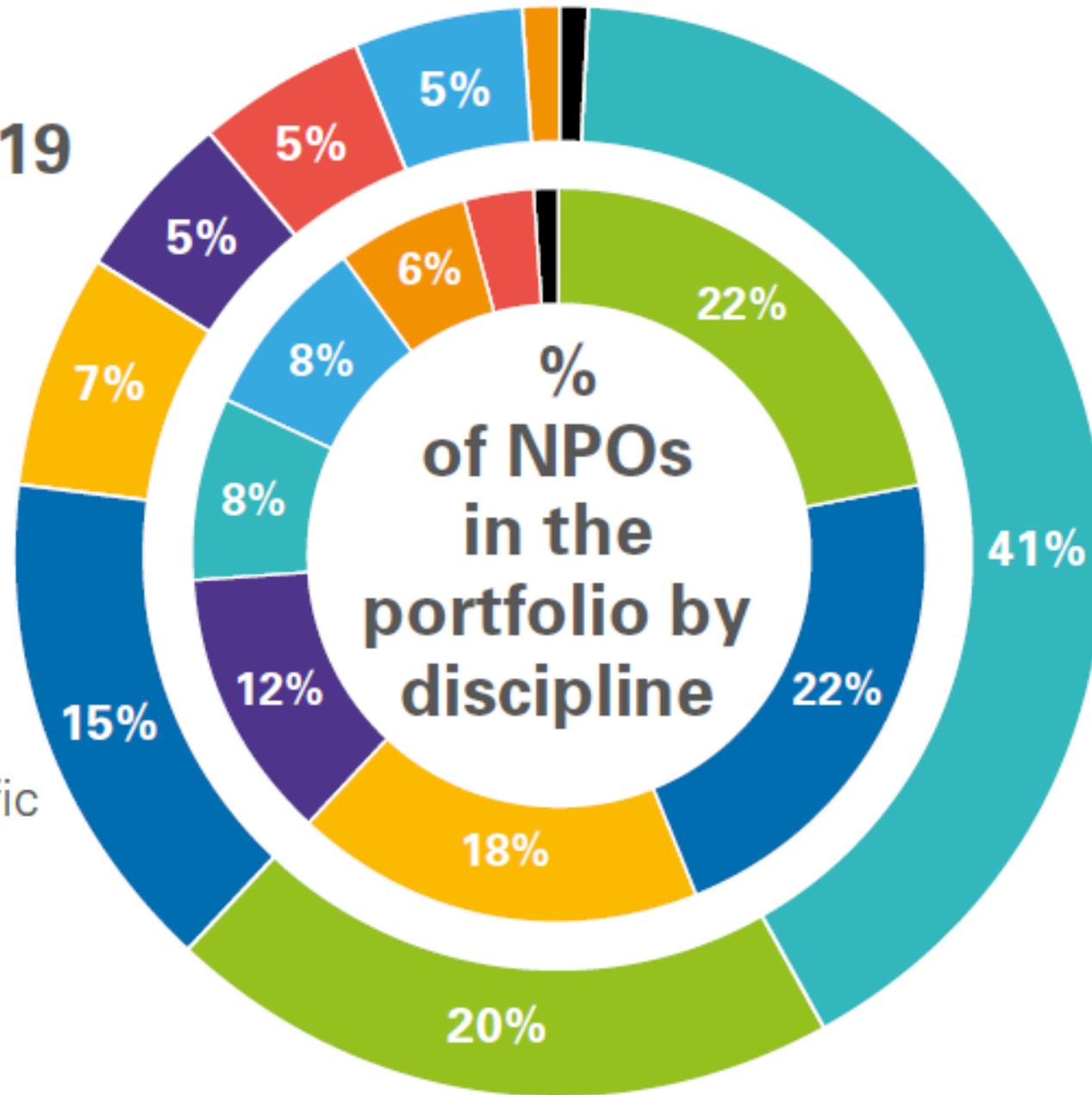
April 11<sup>th</sup> -12<sup>th</sup>, 2013

绿色博物馆——文化遗产保护的可持续发展与风险性管理  
The Green Museum-Sustainability and Risk Management in Conservation



# Total carbon footprint 2018/19 by discipline

- Museums
- Combined arts
- Theatre
- Visual arts
- Music
- not discipline specific
- Dance
- Literature
- Libraries





Caring about the environment is a natural extension of museums' primary role of stewardship of their collections

David Martin, Green Goals, Museum Practice, 33, spring 2006, p47

# Climate Emergency , Tate , London



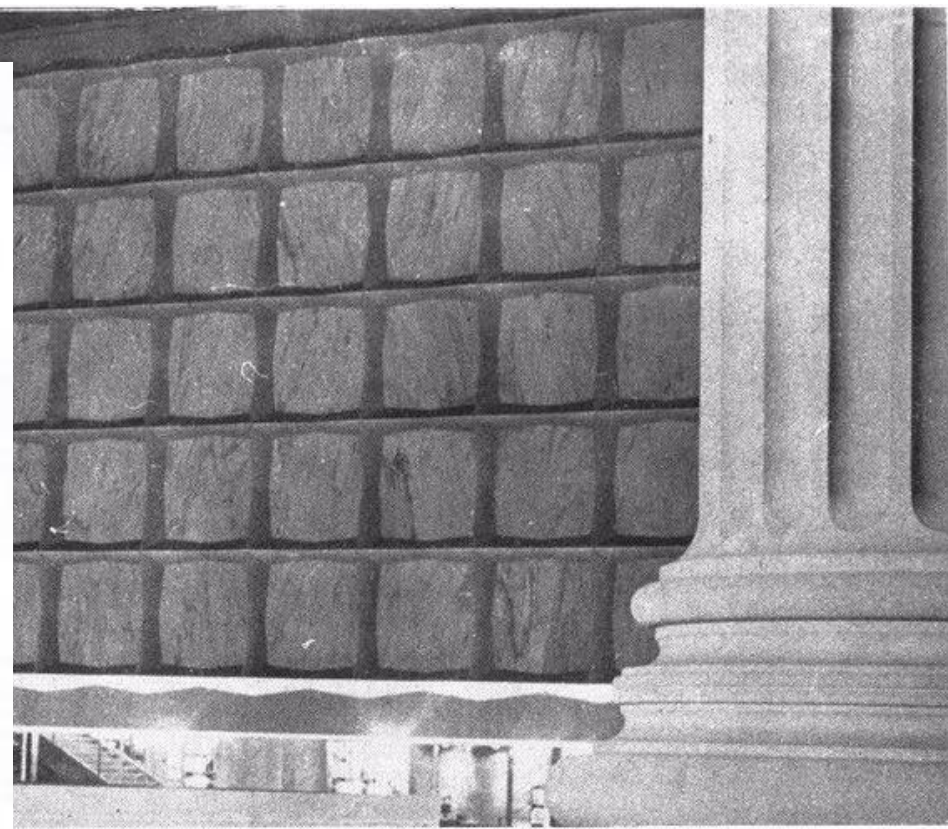




“In the housing of these books and manuscripts there were three principles which determined the design of the building: 1) to provide the necessary protection and environment so that these documents would endure another 2000 years; 2) to create a research center where scholars would have every facility to carry out their research; 3) to dramatize appropriately that this is the Hall.

Intentionally refrigerated at a level below human comfort, the atmosphere of the Hall is kept at a temperature and humidity that is considered best for the preservation of non-living things.

A slightly higher temperature is maintained in the curators' offices.



juxtaposed with the massive columns of the University Dining Hall, as seen in the background of this picture, a five-minute timed night

## Dead Paper Mound Kept Cool Below Human Comfort

by John H. Garabedian

Monumental, windowless, brooding, and yet agile at her extremities, the new Beinecke Rare Book Library is a controversial organism of concrete, steel, granite, bronze, and wierd “translucent” marble.

The product of George Bunshaft’s unrestrained architectural imagination, carefully restrained by the firm of Skidmore Owings and Merrill, Beinecke, for what she’s worth cannot escape your attention.

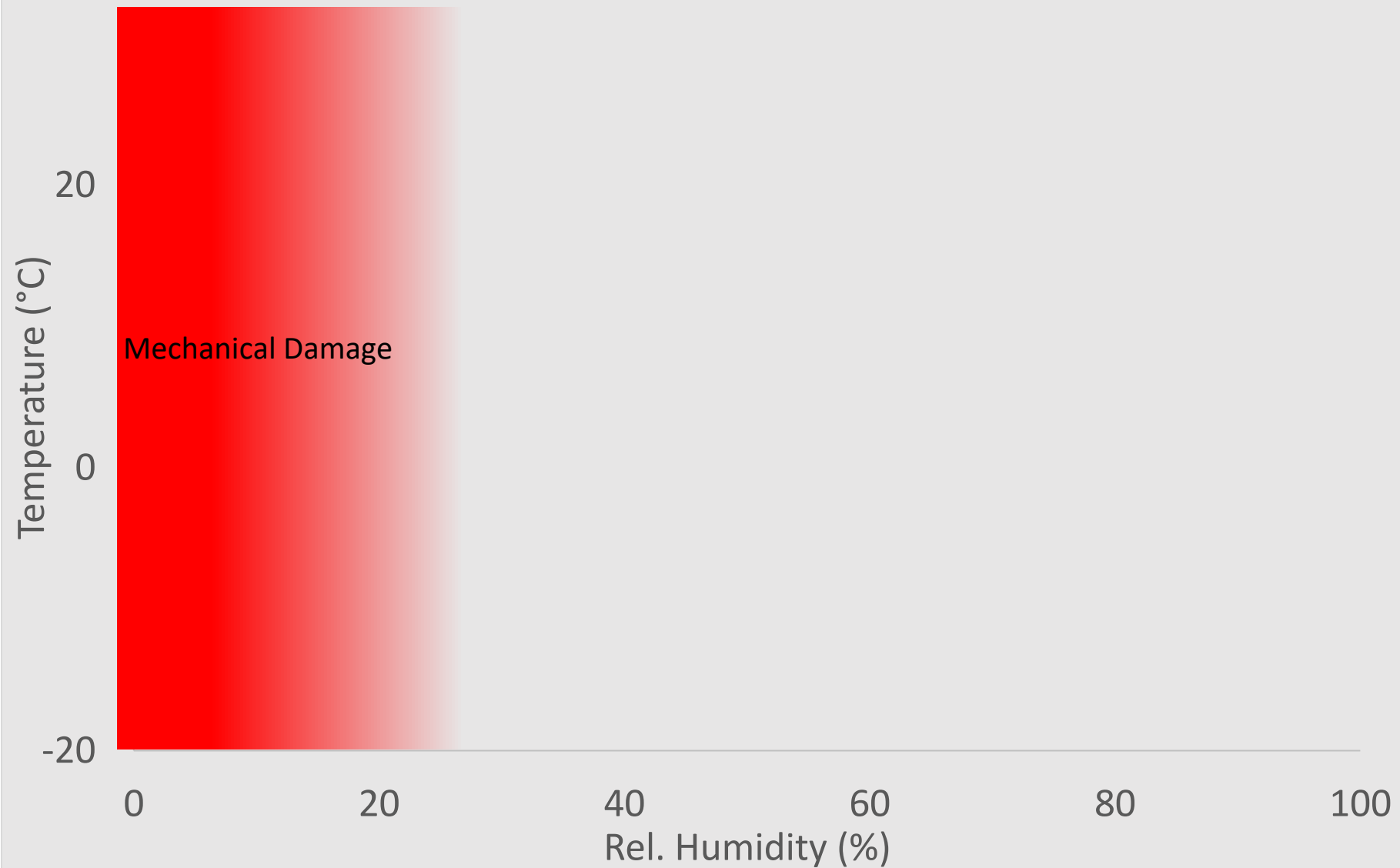
Located at a focal point of activity on the campus, directly east of the Sterling Law buildings, opposite Berkley College and Woodbridge Hall, and snuggled dangerously near Book and Snake and the University Dining Hall, Beineicke juxtaposes the timelessness of decaying arch-

Yale Daily News, 14.10.1963

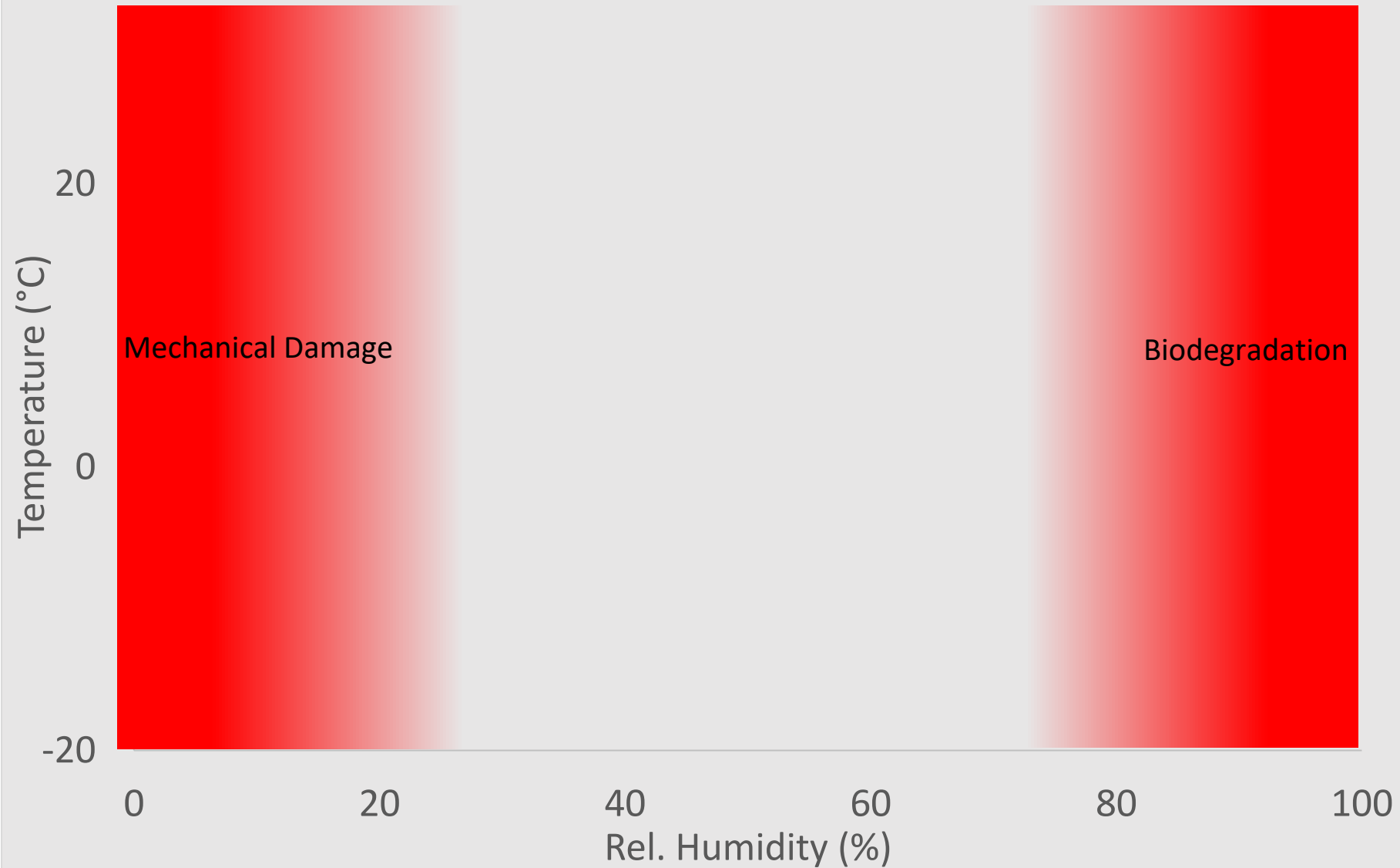
# Environmental Stability Criteria - +/- Dilemma



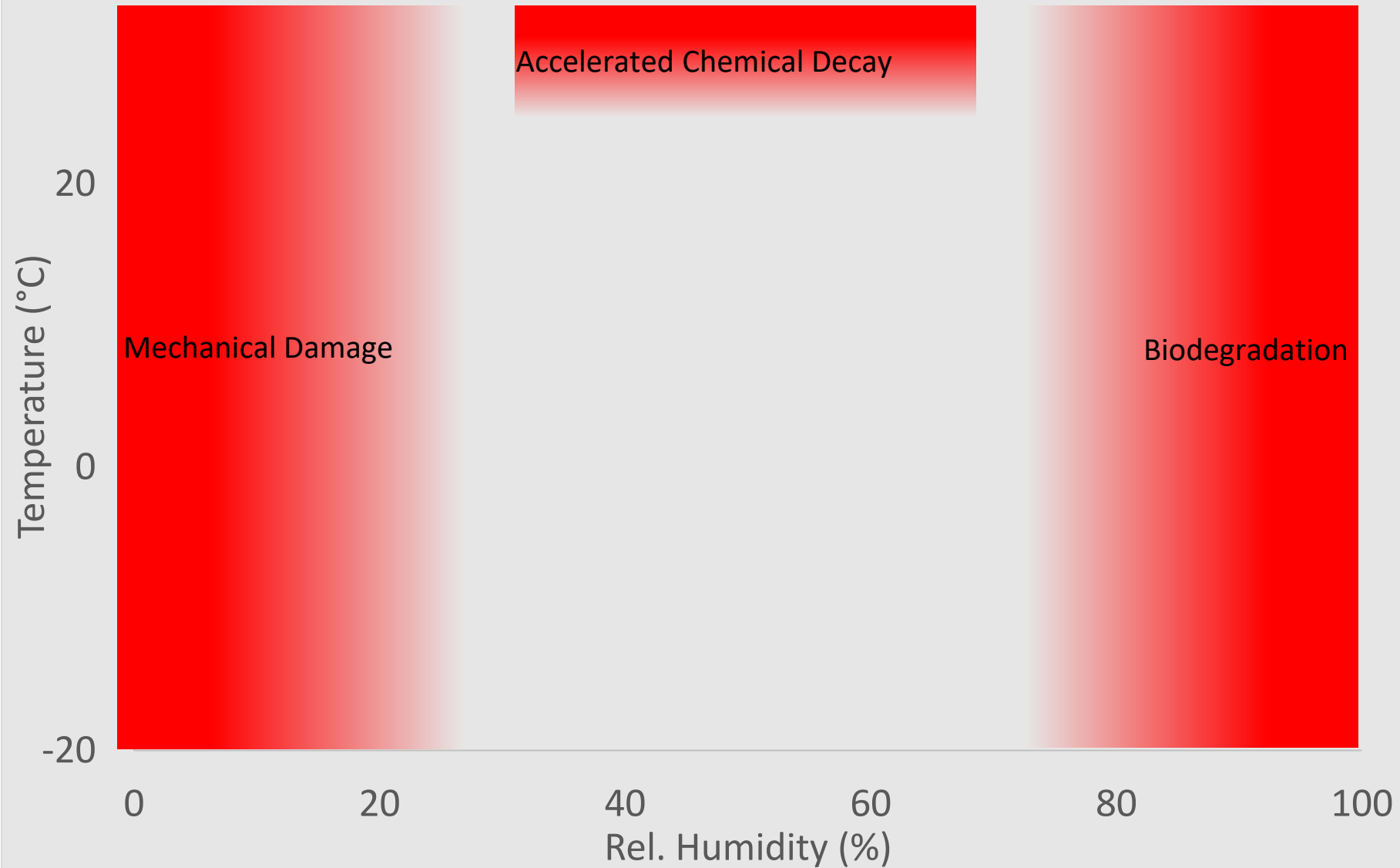
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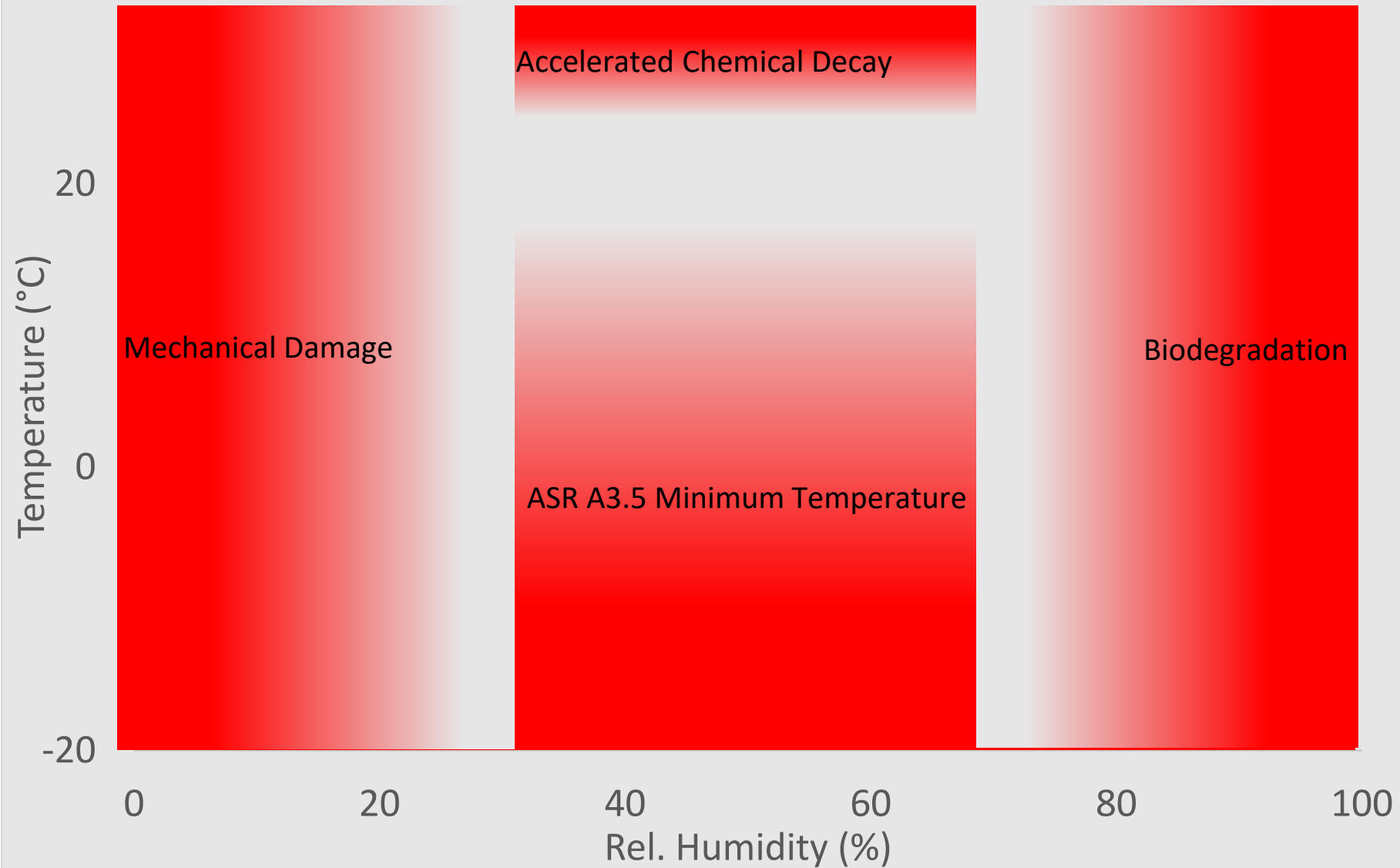
# Environmental Stability Criteria - +/- Dilemma



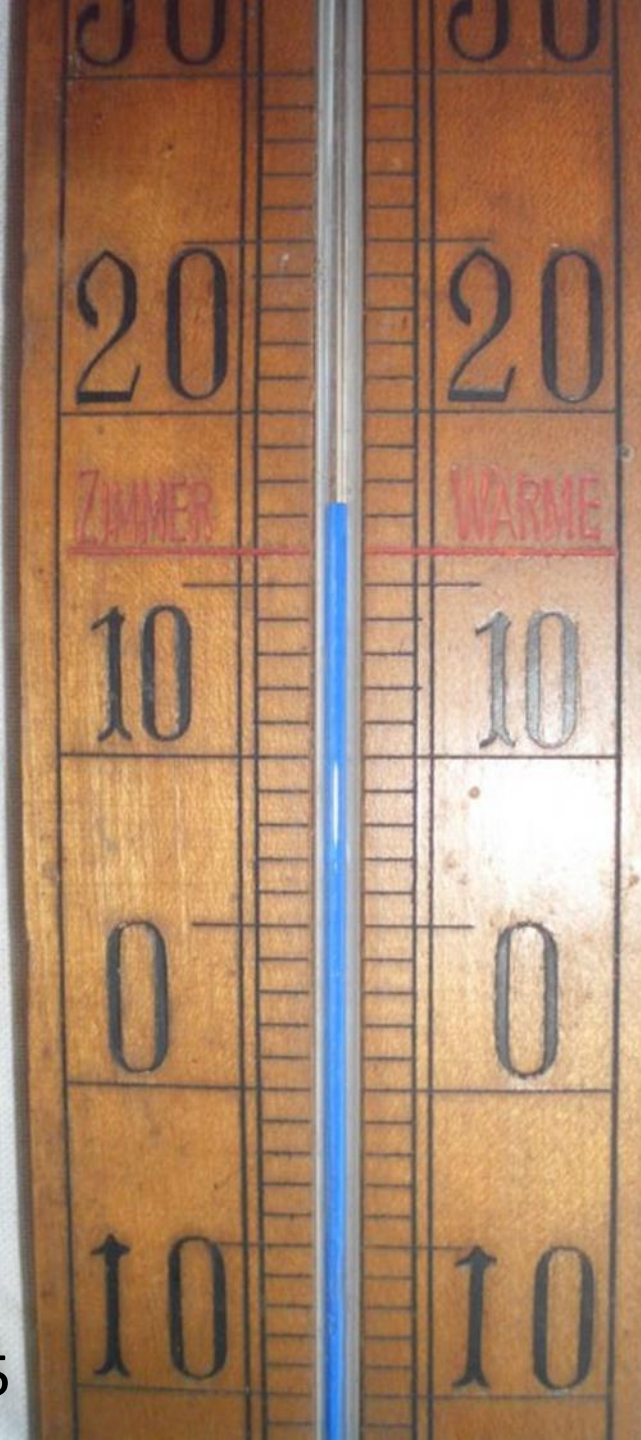
# Environmental Stability Criteria- +/- Dilemma



# Environmental Stability Criteria - +/- Dilemma

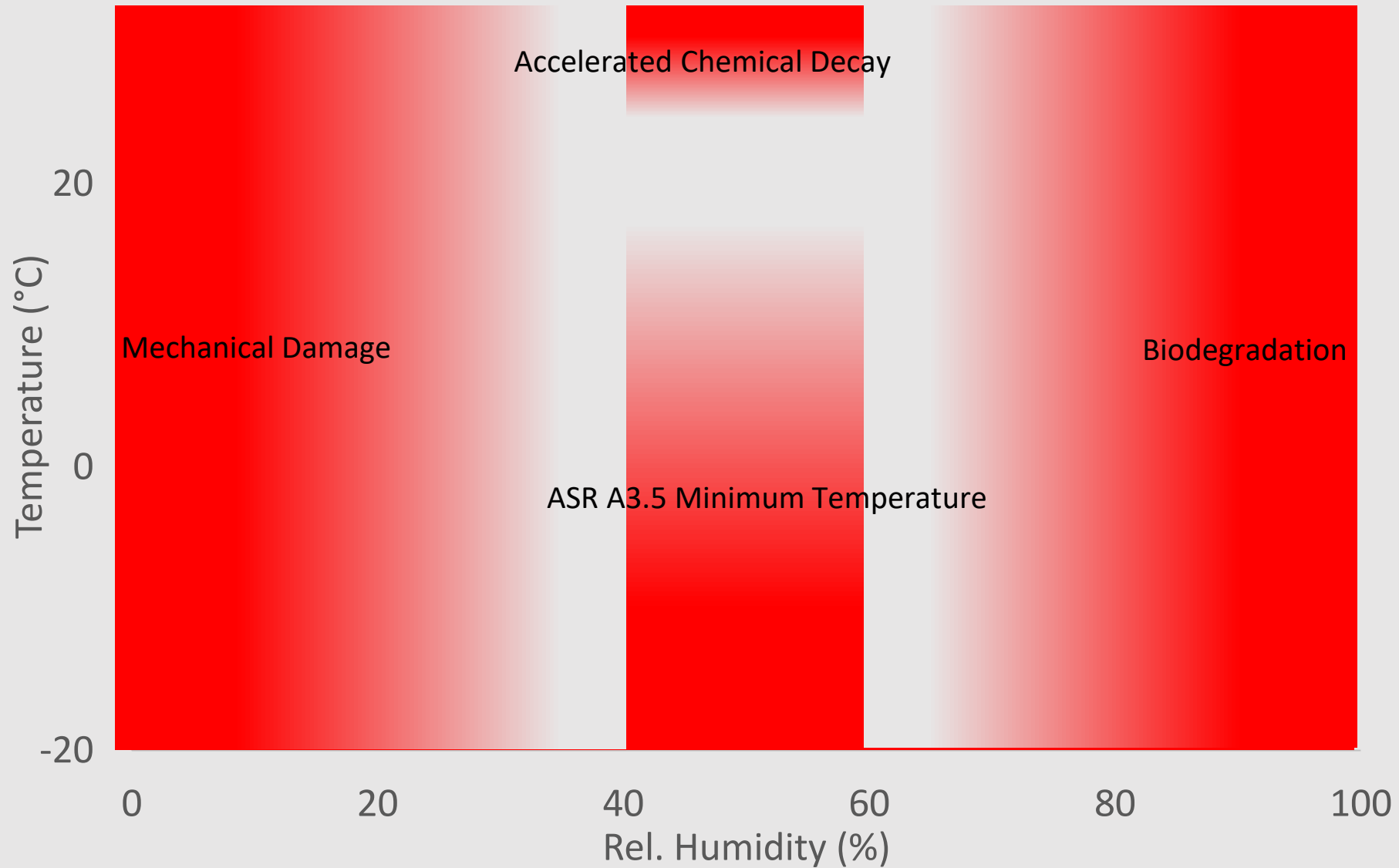


ca. 1915



ca. 1930

# Climatic Stability Criteria - +/- Dilemma





# Let's be Honest

“Relax. . .The risk of damage may be much less than you imagine. Large numbers of objects that might through routine ignorance be put into the plus or minus 5% bracket are robust enough to be lent from **50 plus or minus 15%** to 50 plus or minus 15%. “

Jonathan Ashley-Smith, former Head of Conservation, V&A London

IIC conference, "Preventive Conservation: Practice, Theory and Research". Ottawa, Canada September 15th 1994

Von einer Norm würde hierzu jeder Zahlen erwarten: die üblichen 18°C und 50% relativer Luftfeuchtigkeit, aber es ist gelungen, diesen Gemeinplatz in ISO 11799 zu verhindern. Er ist nämlich wissenschaftlich nicht begründbar. 16°C wären besser als 18°C, bei 20°C beginnt keineswegs der unaufhaltsame Zerfall der Bücher, und die oft kolportierte Meinung, dass 40 oder 30% Luftfeuchtigkeit das Einbandleder und das Pergament der Handschriften aus dem Mittelalter brüchig macht, ist reiner Unsinn

Helmut Bansa, Vortrag auf dem Bibliothekskongreß 2000 in Leipzig

Klimakiller Museum

## Wir brauchen einen "Green New Deal" für Kultureinrichtungen



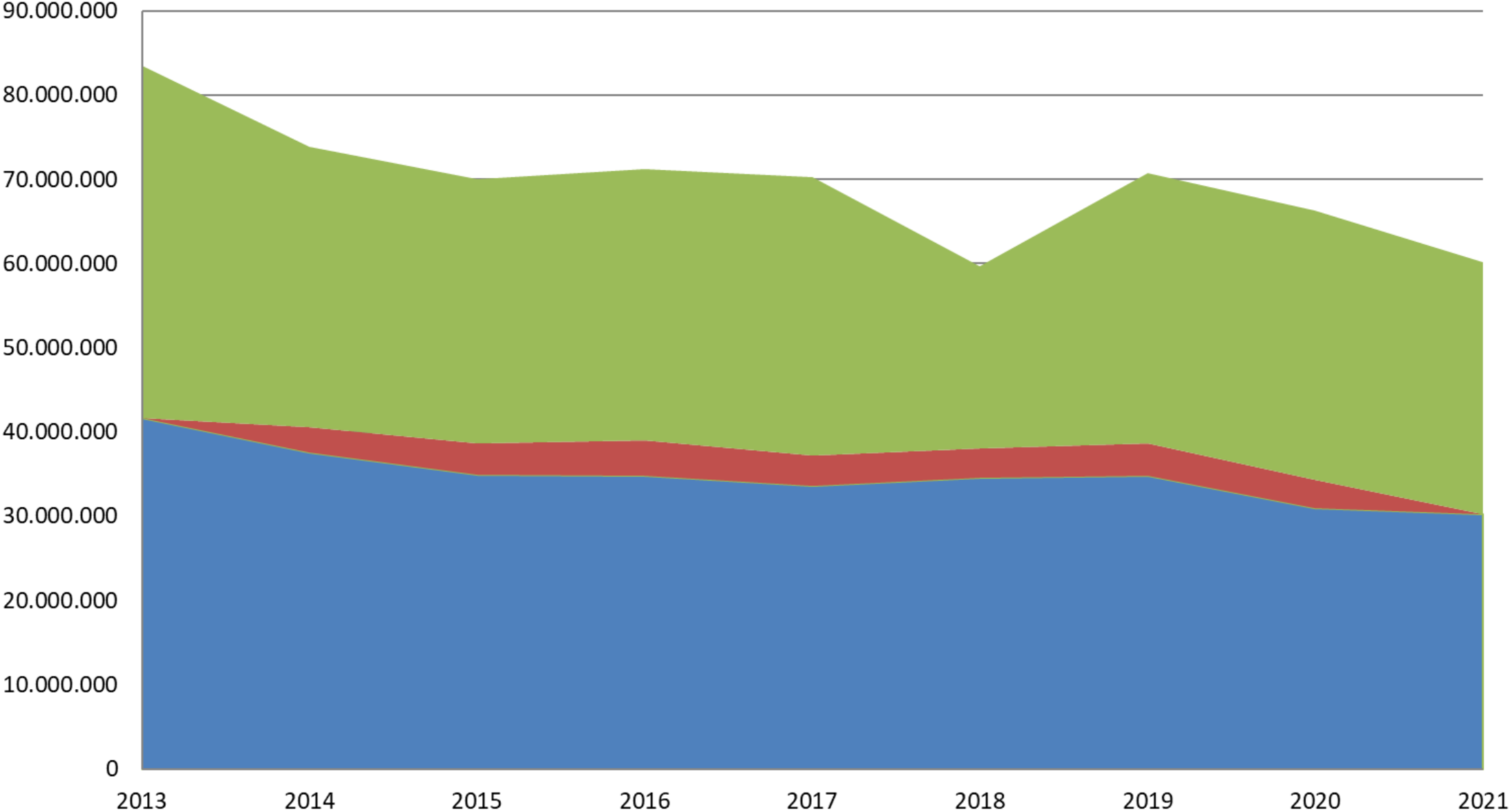
Foto: dpa

\*"Fridays for Future"-Demonstration vor dem Museum für Naturkunde in Berlin. Das Haus ist ein positives Beispiel für den inhaltliche Auseinandersetzung mit dem Klimawandel: Es bietet Panels, auf denen sich Aktivisten und Klimawissenschaftler treffen, und ein ausführliches Programm zum Thema.

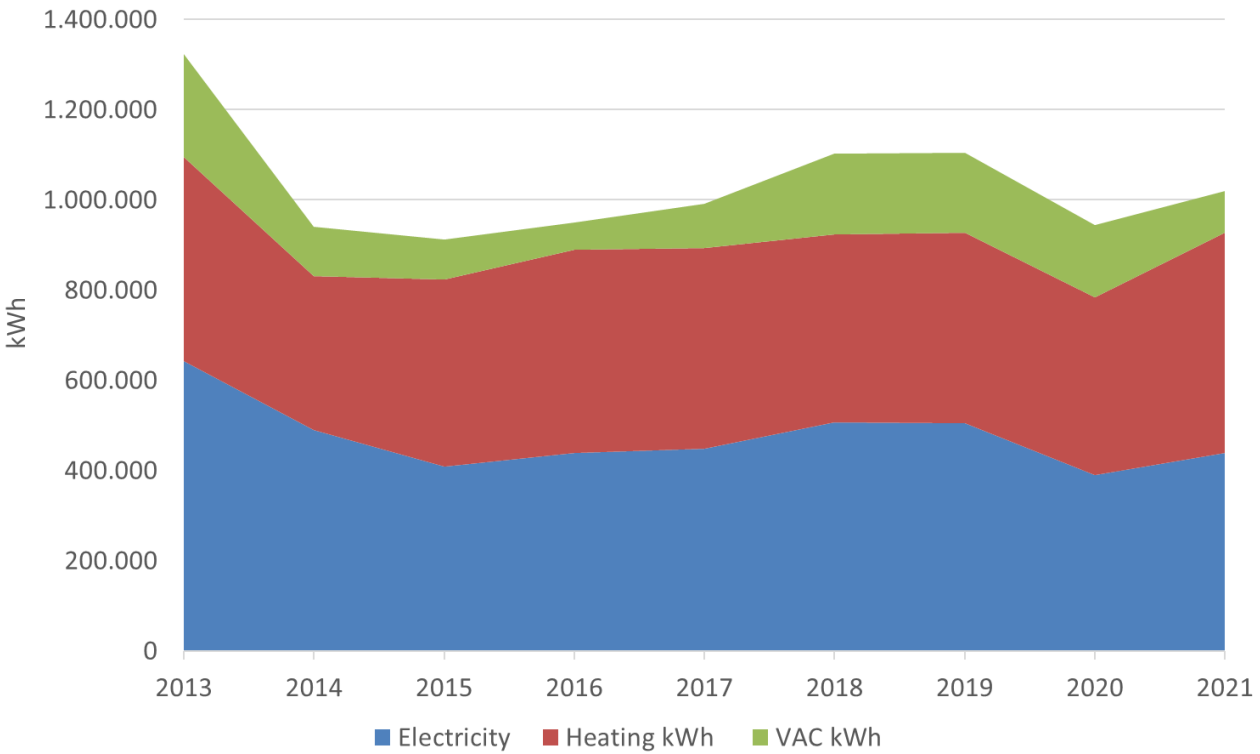
Monopol, Daniel Völzke 19.07.2019, <https://www.monopol-magazin.de/wir-brauchen-einen-green-new-deal-fuer-kultureinrichtungen>

# Energy Consumption National Museums Berlin (kWh)

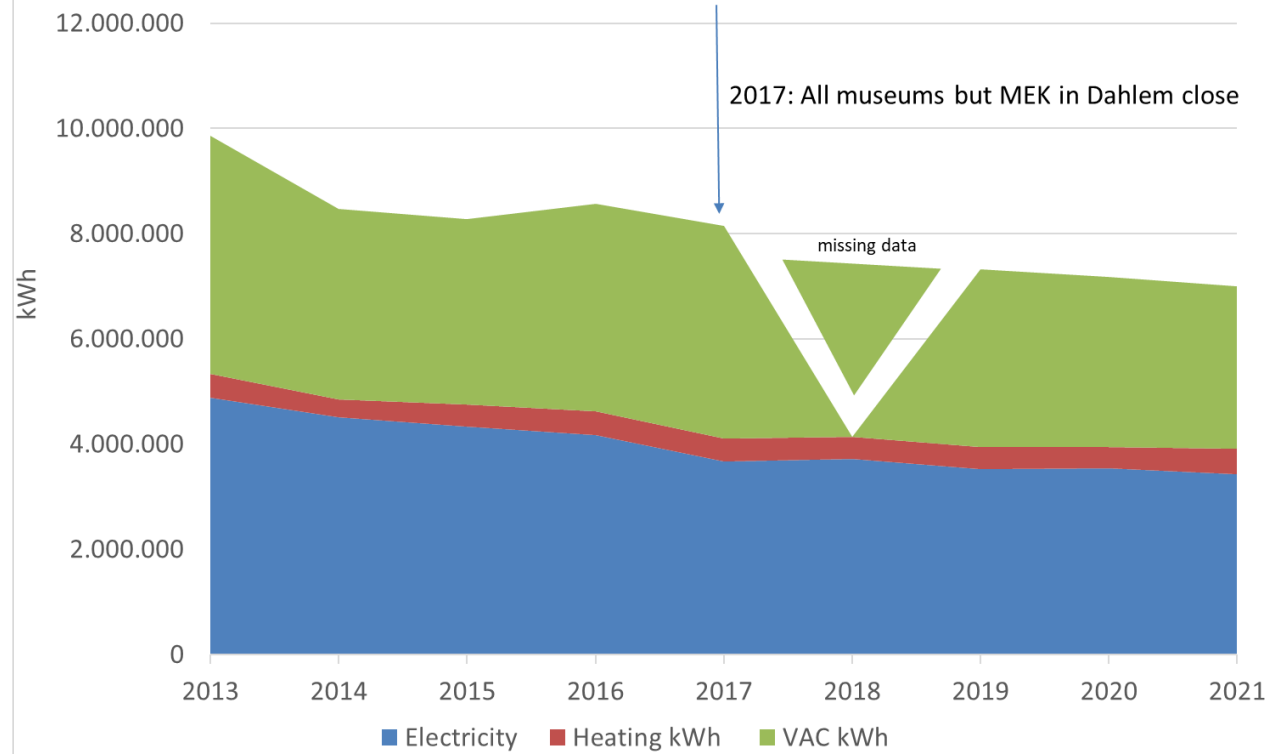
Electricity (kWh)    Cooling (Kulturforum) Vattenfall    Heating/Ventilation (Vattenfall)



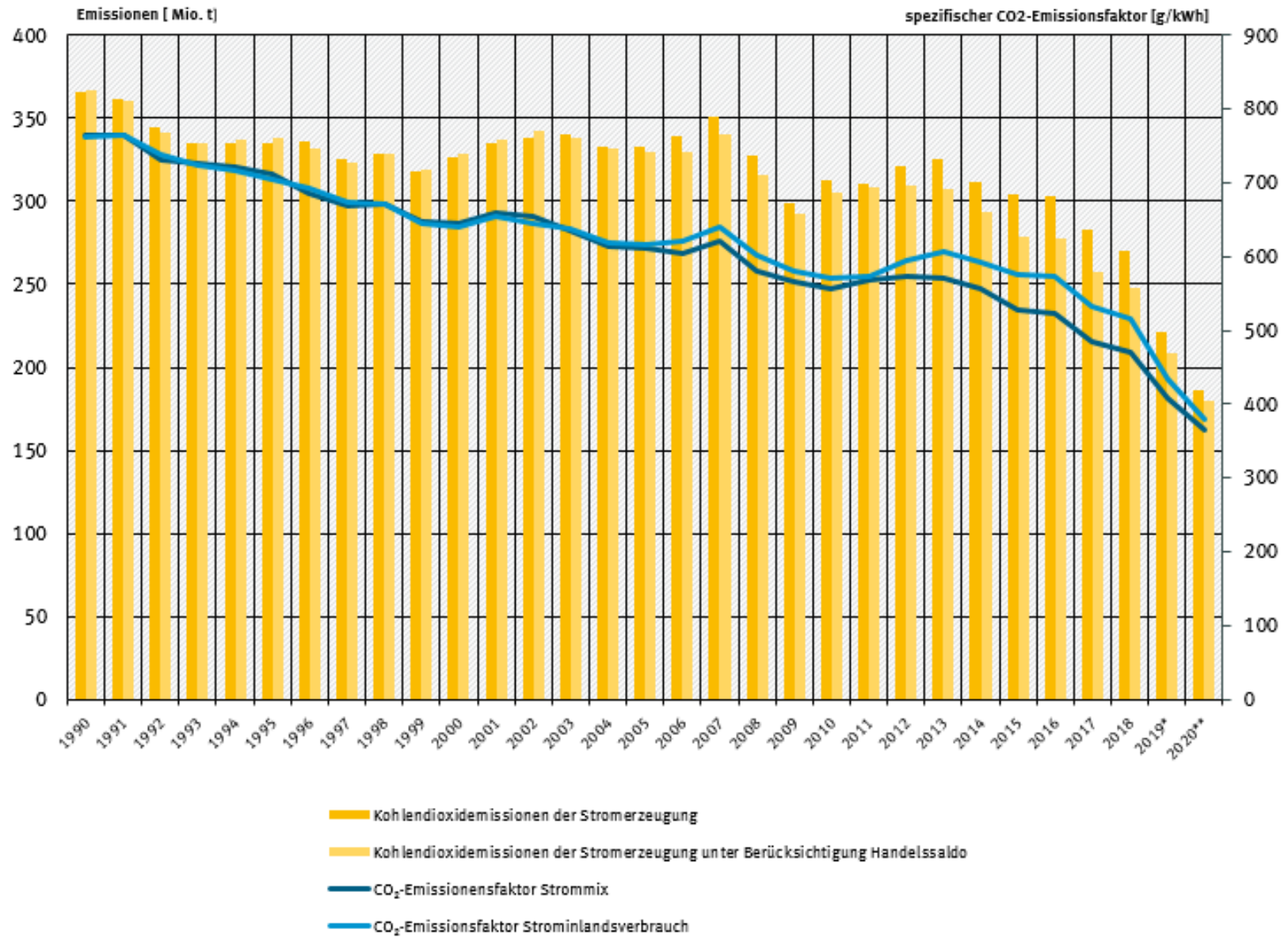
Museum für Fotografie



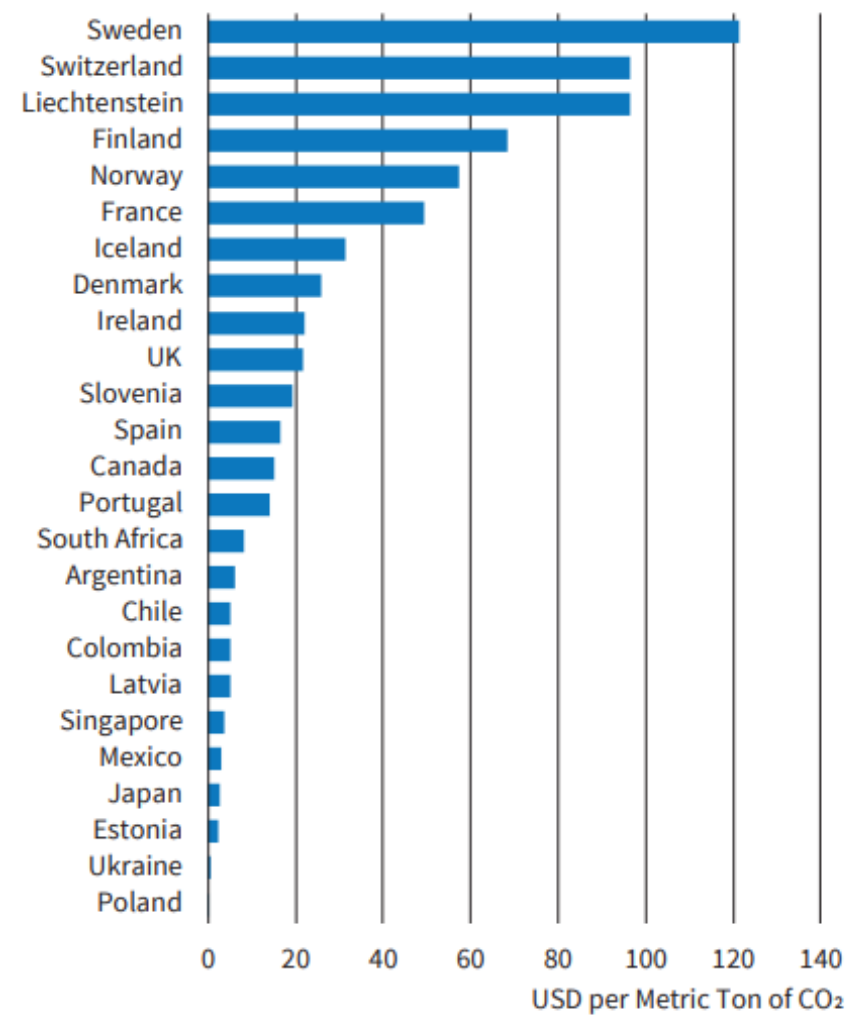
Museen Dahlem



# Entwicklung der spezifischen Kohlendioxid-Emissionen des deutschen Strommix 1990-2019 und erste Schätzungen 2020 im Vergleich zu CO<sub>2</sub>-Emissionen der Stromerzeugung



## Carbon Tax Prices in 2019



Source: World Bank (2019).

# Energy Usage @Yale

Use the application below to explore energy usage at Yale.

Click to hide list 

Choose Buildings to View:

Library & Museum



Use the control on the left to change the buildings you wish to include. Click the button beside the control to edit the buildings in the list. Click the building name to view the energy profile.

## Fiscal YTD Summary through the most current reported period FY202108

| Facility              | GSF            | FYTD21 MMBTU  | FYTD20 MMBTU  | % Change     |
|-----------------------|----------------|---------------|---------------|--------------|
| <b>9 Buildings</b>    | <b>1126415</b> | <b>126440</b> | <b>119968</b> | <b>5 % ↑</b> |
| BASS LIBRARY          | 64505          | 4283          | 4857          | 12 % ↓       |
| BEINECKE LIBRARY      | 105367         | 17728         | 21050         | 16 % ↓       |
| BRITISH ART, YALE CTR | 112612         | 14995         | 15680         | 4 % ↓        |
| HILLHOUSE AVE. 15     | 8502           | 1822          | 1333          | 37 % ↑       |
| PEABODY MUSEUM        | 88468          | 8563          | 7353          | 16 % ↑       |
| RUDOLPH HALL          | 110307         | 10691         | 10374         | 3 % ↑        |
| STERLING MEM LIBRARY  | 456381         | 37941         | 32638         | 16 % ↑       |
| STREET HALL           | 32028          | 4167          | 3884          | 7 % ↑        |
| YALE U. ART GALLERY   | 148245         | 26249         | 22798         | 15 % ↑       |

ACCESSIBILITY AT YALE

„There is no mere boom in museum building.  
It is an orgy.“  
W. Januszczak, 1955





# Energieverbrauch in Museen

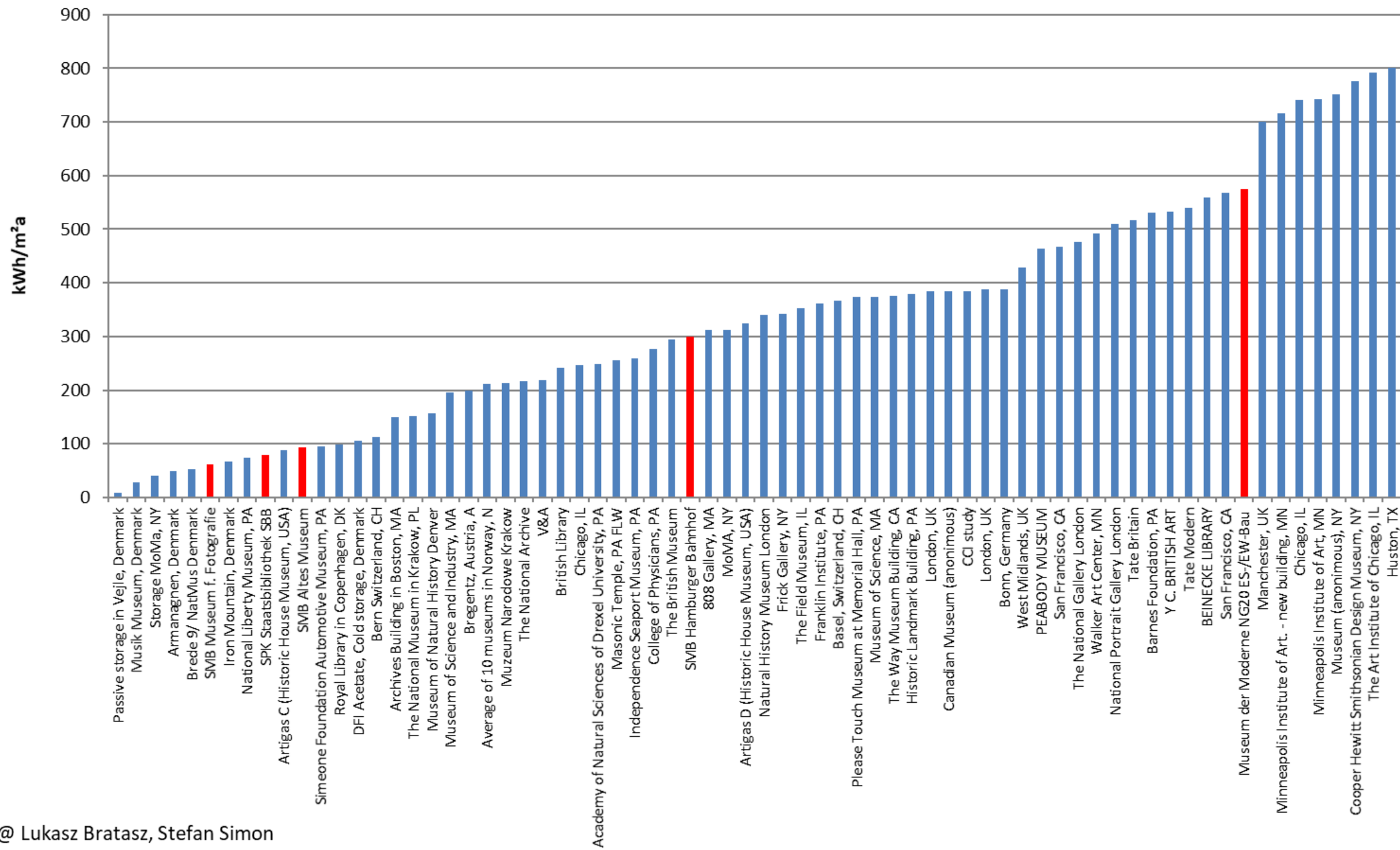
- Graue Energie
- Betrieb (Wärme/Kälte/Belüftung)
- Leihverkehr und Ausstellungen
- Mitarbeitermobilität
- Verbrauchsgüter
- Besuchermobilität

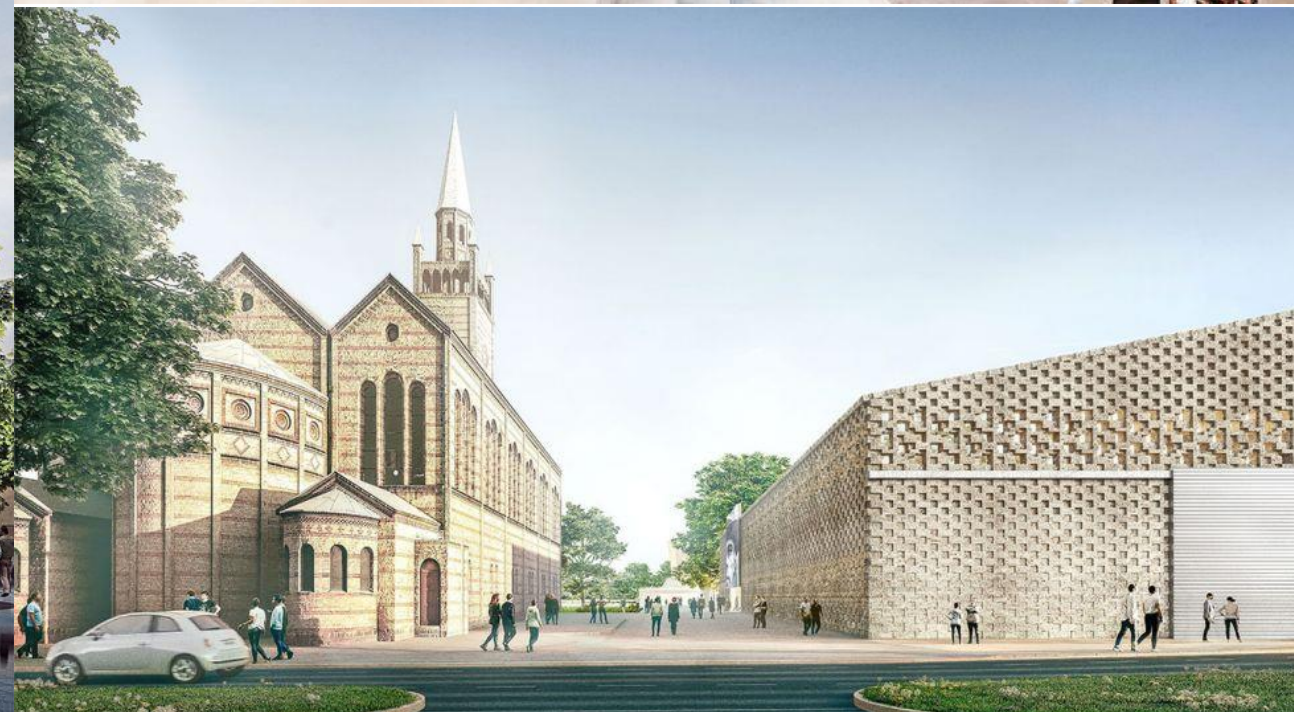
Energieverbrauchsdaten für Internationales Benchmarking bitte an:  
[s.simon@smb.spk-berlin.de](mailto:s.simon@smb.spk-berlin.de)

Nachhaltige Erhaltungsstrategien beinhalten das Ziel realisierbare klimatische Bedingungen auf absehbare Zeit aufrechtzuerhalten und berücksichtigen dabei:

- Mission und Ressourcen einer Organisation
- Bedürfnisse der Sammlung und ihrer Nutzer
- Gebäudetyp
- Lokale, regionale, nationale und internationale Regelungen
- Geeignete Umwelt/Klimasysteme

# Energy Consumption of Museums, Archives and Storage Facilities





Bilder: Stiftung Preußischer Kulturbesitz/© Herzog & de Meuron



Stump  
Franki

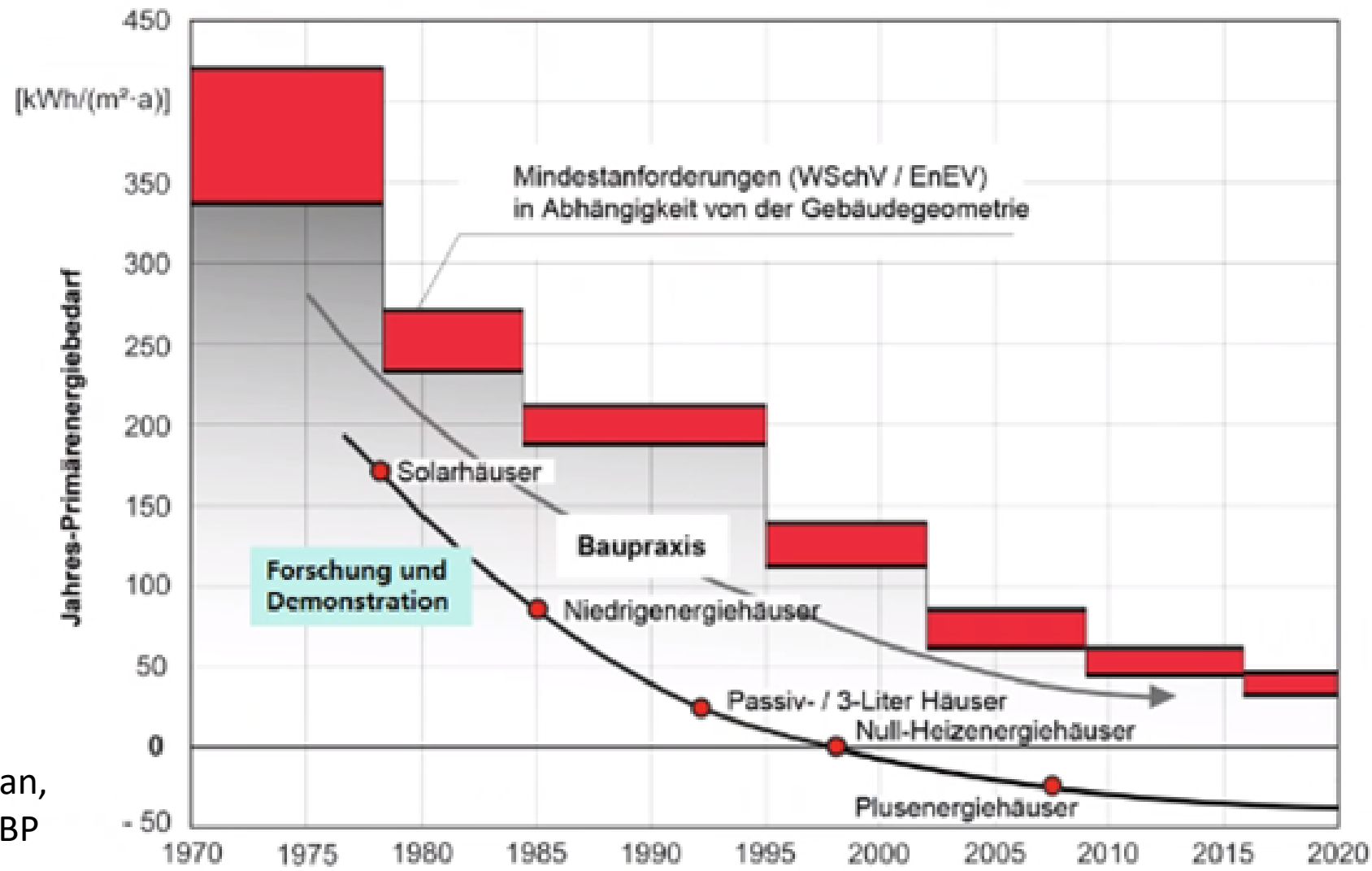
DORA

STADT KLINGLINDE - WEST - MÜLLER



- 2021 Baubeginn Museum d. 20. Jhdts
- 2026 vorauss. Fertigstellung

# Meilensteine des energiesparenden Bauens



@ Ralph Kilian,  
fraunhofer IBP

# Environmental Guidelines – IIC and ICOM-CC Declaration 2014

- Das Thema der Nachhaltigkeit von Museen ist viel umfassender als die Diskussion über Umwelt- und Klimastandards. Sie muss ein zentrales und grundlegendes Kriterium zukünftiger Prinzipien sein.
- Durch Reduzierung ihres Energieverbrauchs und Prüfung alternativer erneuerbarer Energiequellen sollen Museen und Sammlungseinrichtungen versuchen, ihren CO<sub>2</sub>-Fußabdruck und ihren Umwelteinfluss zu verringern um dem Klimawandel entgegenzuwirken
- Die Ziele der Sammlungspflege sollten verfolgt werden, ohne dass eine aktive Klimatisierung vorausgesetzt wird. Passive Methoden, einfache Technologien, die leicht zu warten sind, Luftzirkulation und energiearme Lösungen sollten dabei berücksichtigt werden.
- Risikomanagement sollte in die Prozesse des Museumsmanagements eingebettet werden.



# ASHRAE , 2019

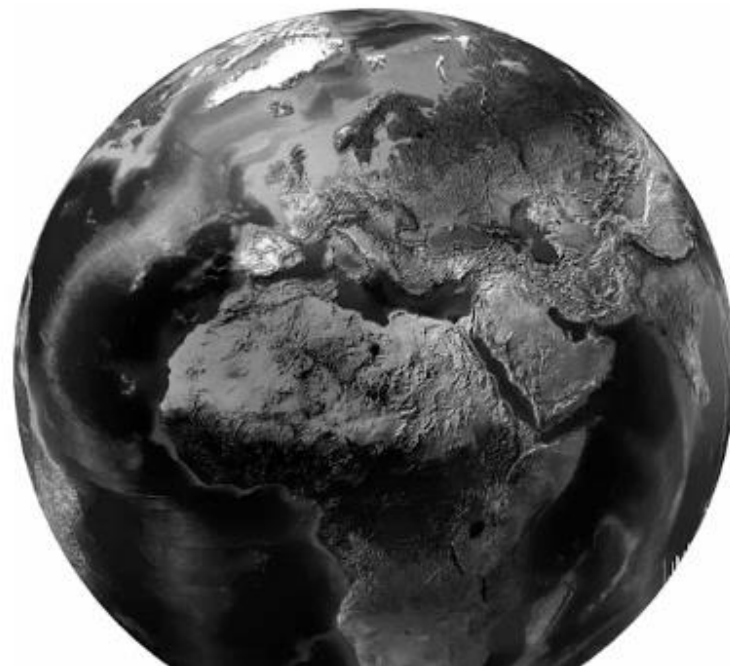
„Auf den besten verfügbaren Technologien für außergewöhnliche Feuchtigkeitskontrolle oder eine umfassende Schadstofffiltration zu bestehen, kann langfristig die Erfüllung der institutionellen Mission gefährden“

„Beim Design von Klimatisierungsoptionen sollte zunächst das Gebäude selbst als Kontrollmittel betrachtet werden“

„Vor dem Einstieg in vollständig mechanische Steuerungslösungen sollten Anstrengungen unternommen werden, Strategien zu verwenden oder zu integrieren, die nicht auf mechanischer Steuerung beruhen, einschließlich passiver Gebäudelösungen (..)“

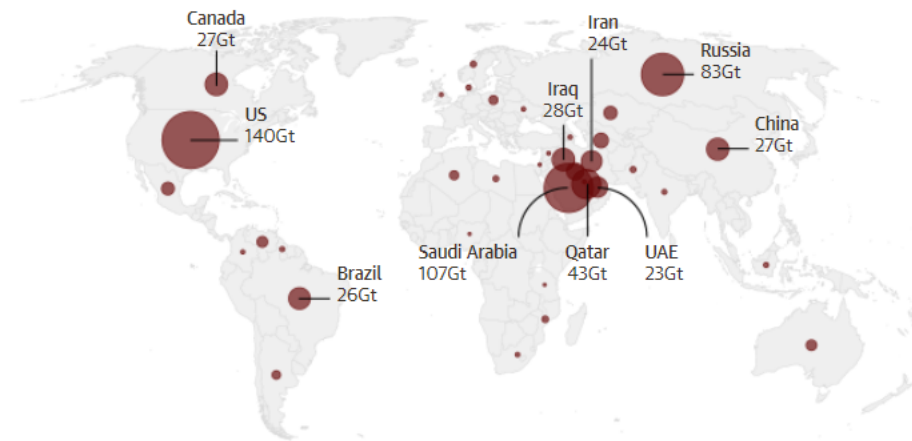


## Revealed: the 'carbon bombs' set to trigger catastrophic climate breakdown



### Twenty-two mega-projects in the US account for more than a fifth of potential emissions from global 'carbon bombs'

Potential carbon emissions from carbon bombs by country, GtCO<sub>2</sub>



Guardian graphic. Source: Kühne, Energy Policy, 2022. MENA = Middle East and North Africa