Recent "Biotech" Policy Developments: The Boring Stuff

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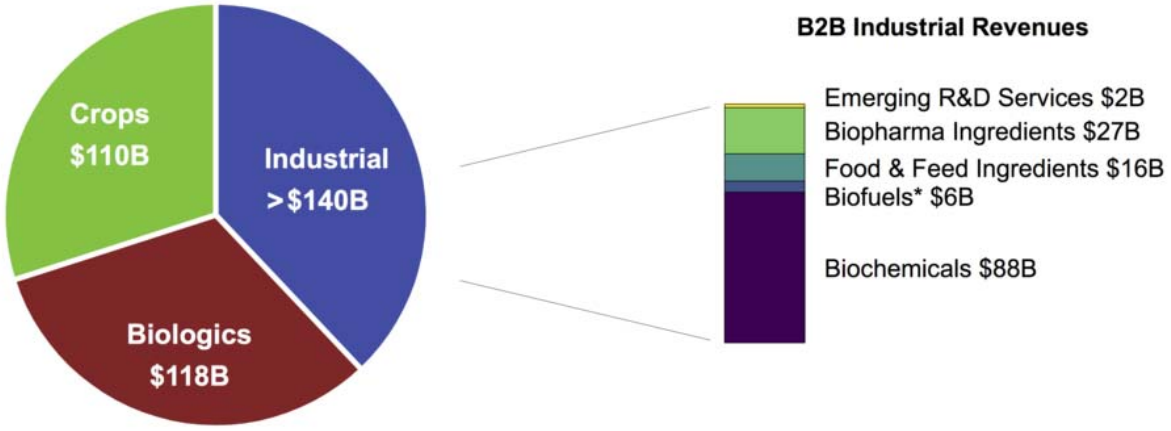
GES CENTER

NC STATE

Estimated 2016 U.S. Biotechnology Revenues:
At Least $370 Billion, >2% Of GDP
(Sources: Bioeconomy Capital, Agilent)



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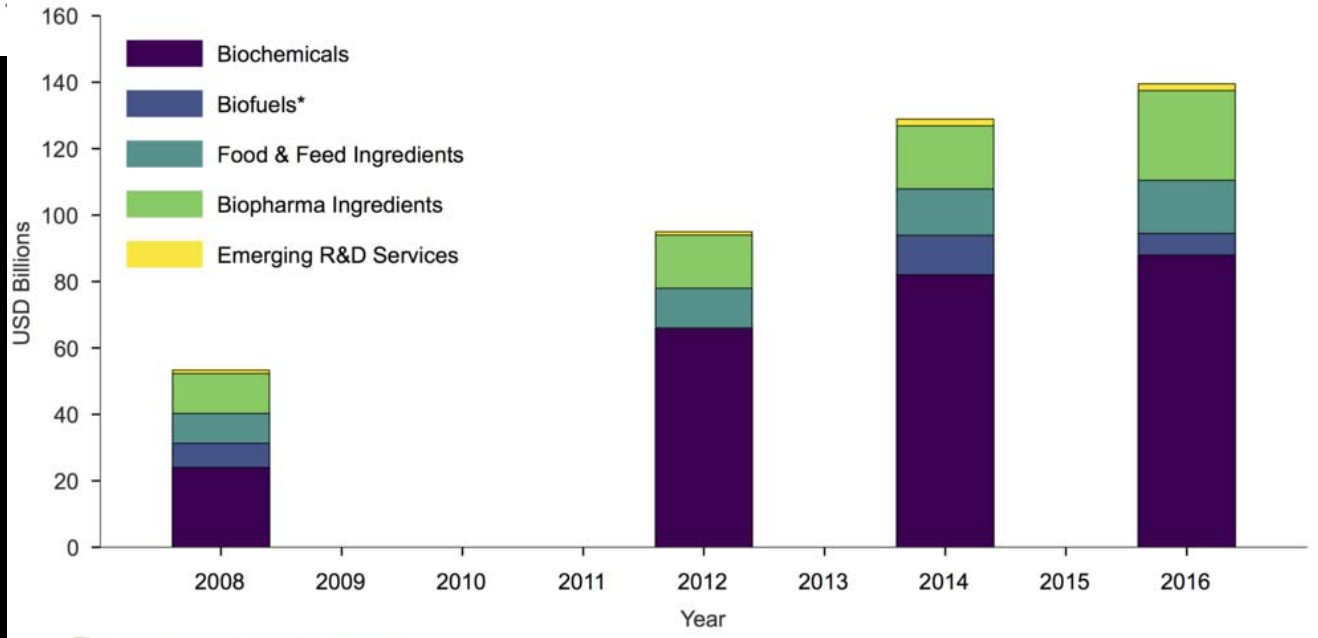
Bioeconomy CAPITAL

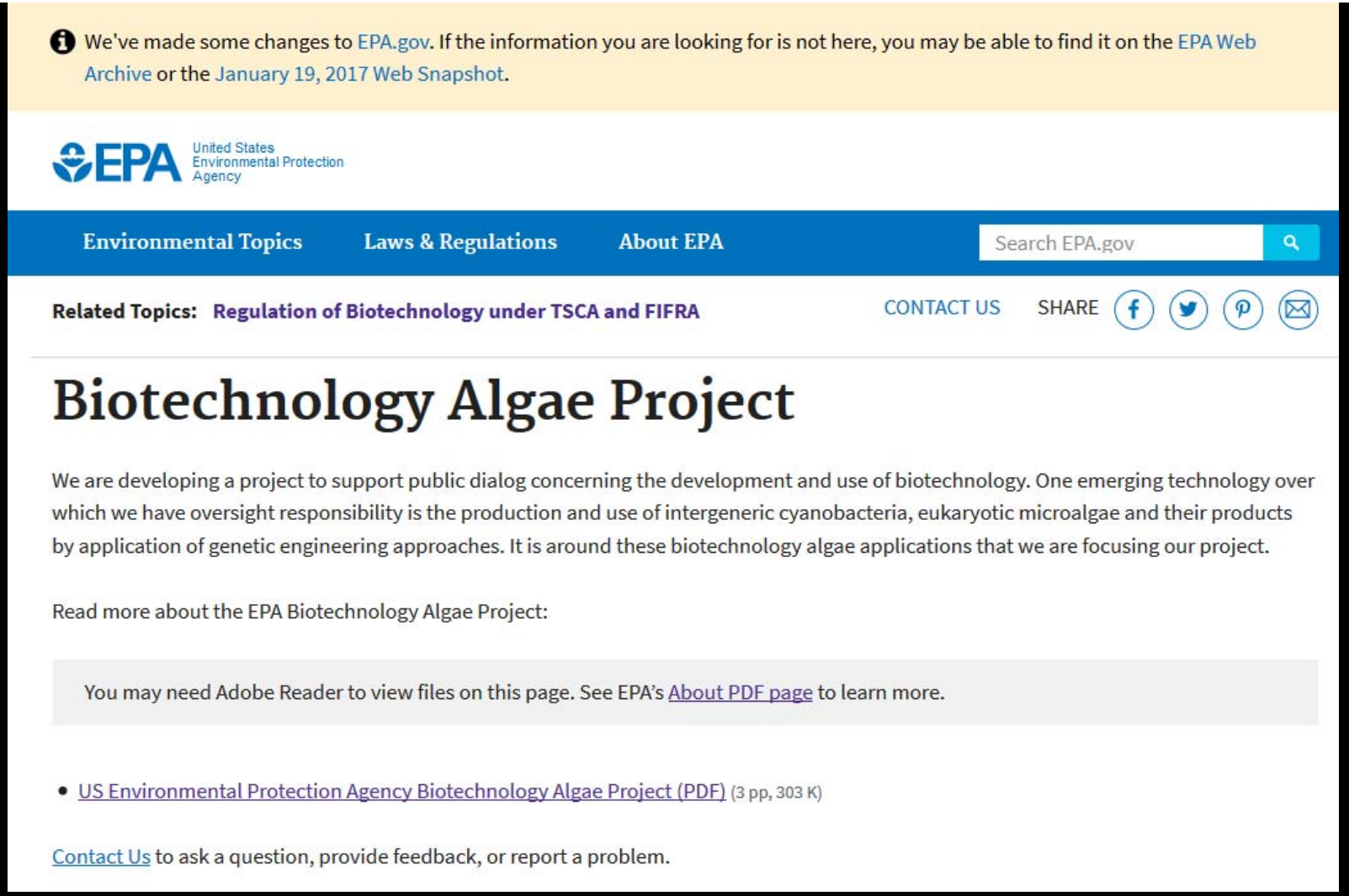
Rob Carlson (2018):
http://www.bioeconomycapital.com/bioeconomy-dashboard/

Industrial Biotech Revenues by Component
(B2B only, Source: Agilent, Bioeconomy Capital)



Bioeconomy CAPITAL

17 January, 2018



https://www.epa.gov/regulation-biotechnology-under-tsca-and-fifra/biotechnology-algae-project

May 2017 - First EPA-approved outdoor field trial for genetically engineered algae: UC San Diego (https://www.sciencedaily.com/releases/2017/05/170504083048.htm)

- Under the EPA's purview over a 50-day experiment
- Testing both algae strains in water samples taken from five regional lakes showed strikingly similar levels of growth in the tests, and that the genetic modification did not change the impact of the cultivated strains on native algae communities.

CBD

UNEP

Convention on Biological Diversity

Distr.
GENERAL

CBD/SYNBIO/AHTEG/2017/1/3
9 December 2017

ENGLISH ONLY

REPORT OF THE AD HOC TECHNICAL EXPERT GROUP ON SYNTHETIC BIOLOGY

MONTREAL, CANADA, 5-8 DECEMBER 2017

INTRODUCTION

https://www.cbd.int/doc/c/aa10/9160/6c3fcedf265dbee686715016/synbio-ahteg-2017-01-03-en.pdf

(i) Modified algae, being used for the production of chemical substances, might require relatively “open” production ponds/facilities due to the need for sunlight;

Food and Agriculture Organization of the United Nations

The International Treaty ON PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE

Potential implications of new synthetic biology and genomic research trajectories on the International Treaty for Plant Genetic Resources for Food and Agriculture

A study commissioned by the Secretariat of the International Treaty on PGRFA, FAO

Conducted by:

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UN FAO Technical Study Conclusions

1. The digitization era is producing large amounts of sequence data that is widely available and easily exchanged
    1. High throughput and automation of screening has enabled researchers to "screen thousands to billions of variants of an organism for function or phenotype" (National Academies of Sciences, 2017)
    2. Mining plant genomic information (data) for gene editing purposes in agriculture
    3. Mining for plant genomic information (data) for use outside of agriculture
2. While many researchers we spoke with still require or prefer the physical material for their work, there was a suggestion that the separation between material and data (DSI) is increasing
3. Demand for screening technologies is increasing and moving towards "omics approaches that are agnostic to the type of organism being tested
4. There is a community building dimension to "synbio"
    1. Most people know each other
    2. They also need each other (both in terms of data and techniques)
    3. De-skilling/Democratization
        1. iGEM
        2. DIYbio

https://www.researchgate.net/deref/http%3A%2F%2Fwww.fao.org%2Ffileadmin%2Fuser_upload%2Ffaoweb%2Fplant-treaty%2FGB7%2Fgb7_90.pdf

Convention on Biological Diversity

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Nagoya Protocol
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Parties
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- National information - country profiles
- Key Steps towards implementation

Key Protocol issues
- ABS Clearing-House
- Assessment and review
- Awareness raising

> Access and Benefit-sharing > Key Issues > Digital sequence information on genetic resources > AHTEG on Digital Sequence Information on

AHTEG on Digital Sequence Information on Genetic Resources

An ad hoc technical expert group (AHTEG) on digital sequence information on genetic resources was established by decision XIII/16 of the Conference of the Parties of the Convention on Biological Diversity. In accordance with decision NP-2/14, the AHTEG will also serve the Nagoya Protocol.

A meeting of the AHTEG on digital sequence information on genetic resources is being convened thanks to the financial support of the European Union and the Government of Canada. Among other tasks, the AHTEG is to consider the compilation and synthesis of views and information submitted by Parties, other Governments, relevant organizations and stakeholders, as well as a fact-finding and scoping study commissioned by the Executive Secretary.

Meeting of the AHTEG on digital sequence information on genetic resources (13-16 February 2018)

- **Terms of reference of the AHTEG** (annex to decision XIII/16)
- **Composition of the AHTEG**
- **Documents for the meeting**
- **Peer review comments on the fact-finding and scoping study**
- **Submission of views and information from Parties, other Governments, relevant organizations and stakeholders**

AHTEG meeting February 13-16