

Stacking the Benefits of Clean Energy

Health
Agricultural
Environmental



Renewable Energy Summit 2019: Stacking the benefits of renewables



January 17, 2019

Key Pillars of Deep Decarbonization



ENERGY EFFICIENCY

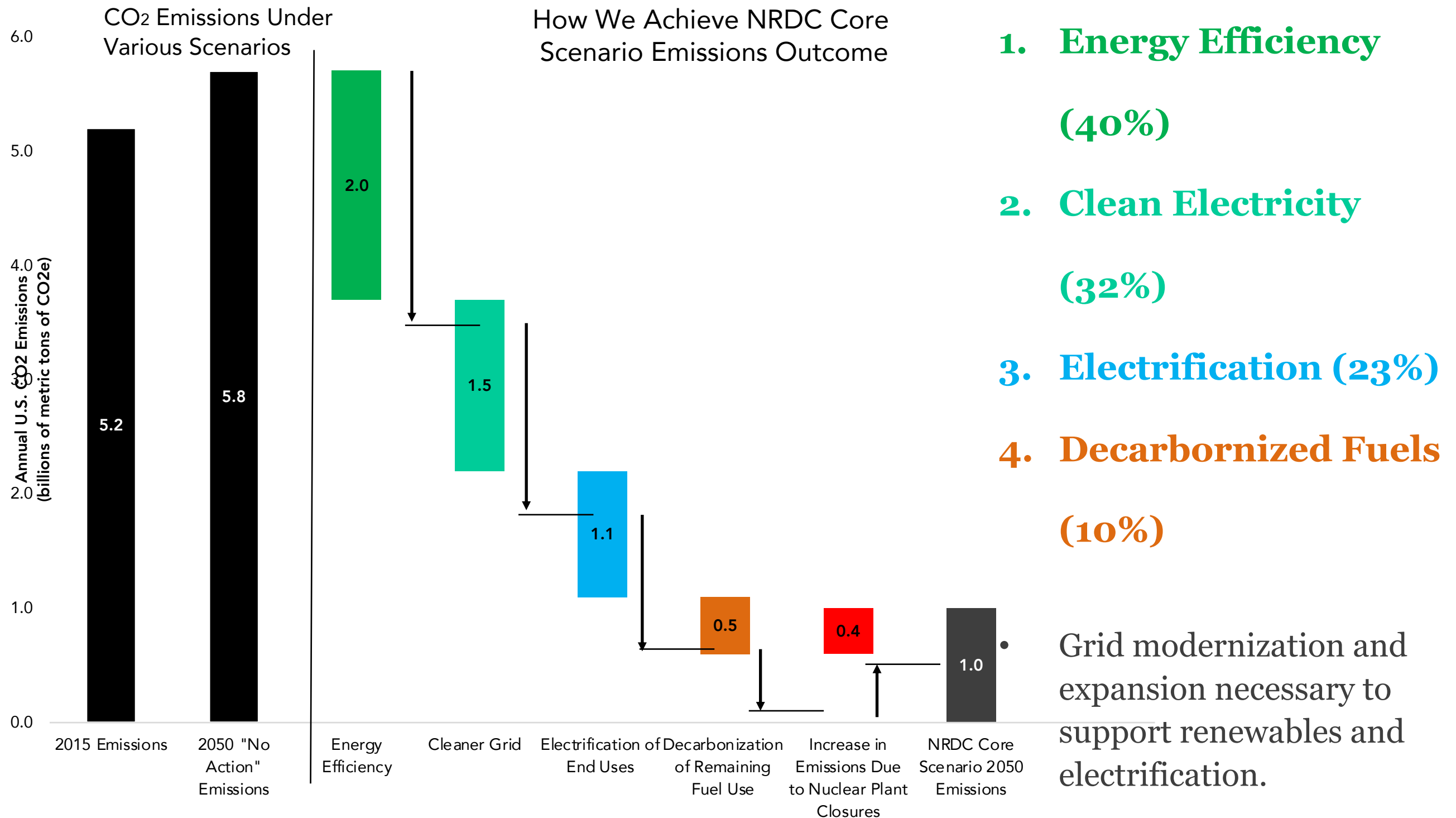


RENEWABLE ENERGY



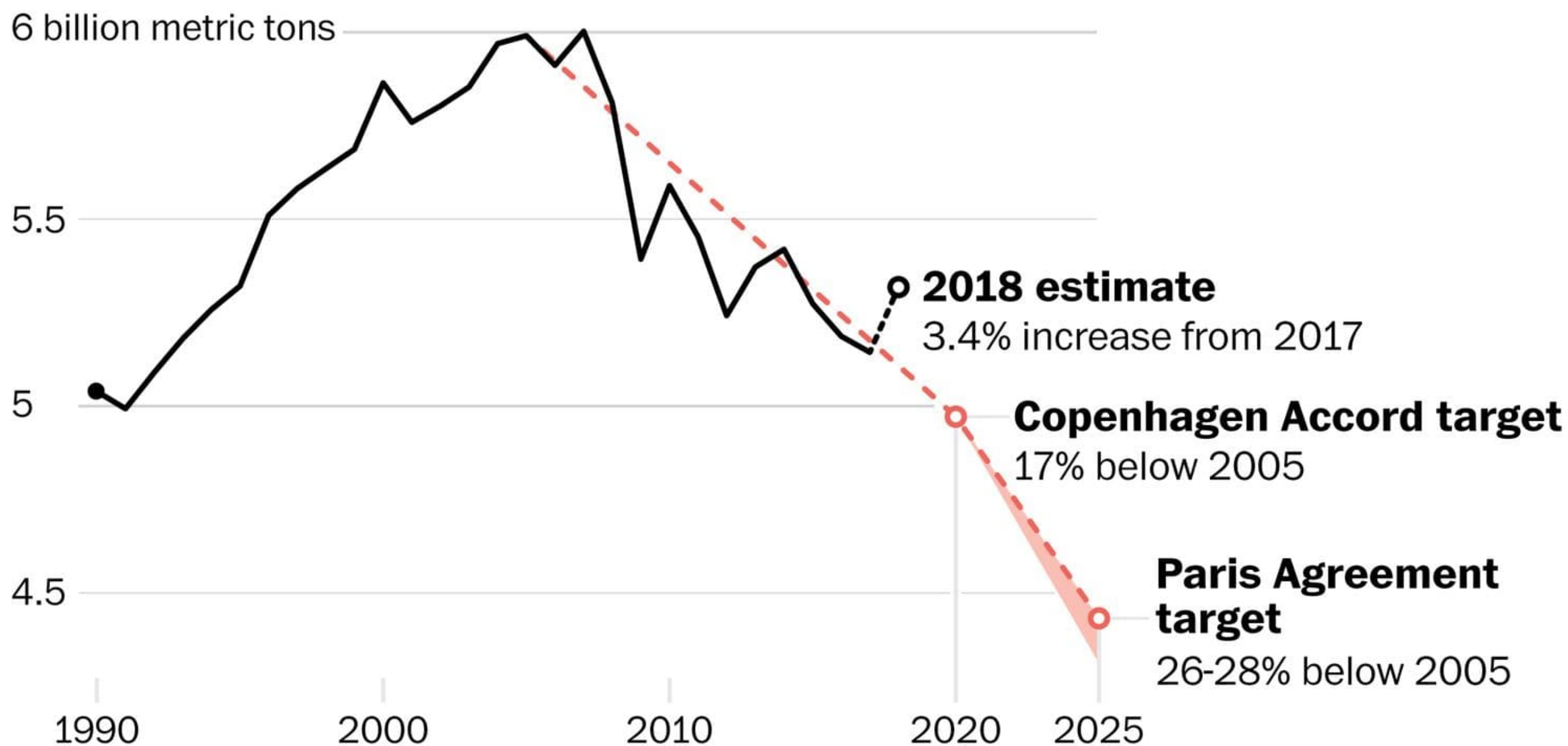
ELECTRIFICATION

NRDC's PATHWAY: How we get to 80x50



U.S. drifts farther from emissions targets

Energy-related CO₂ emissions are estimated to have increased in 2018

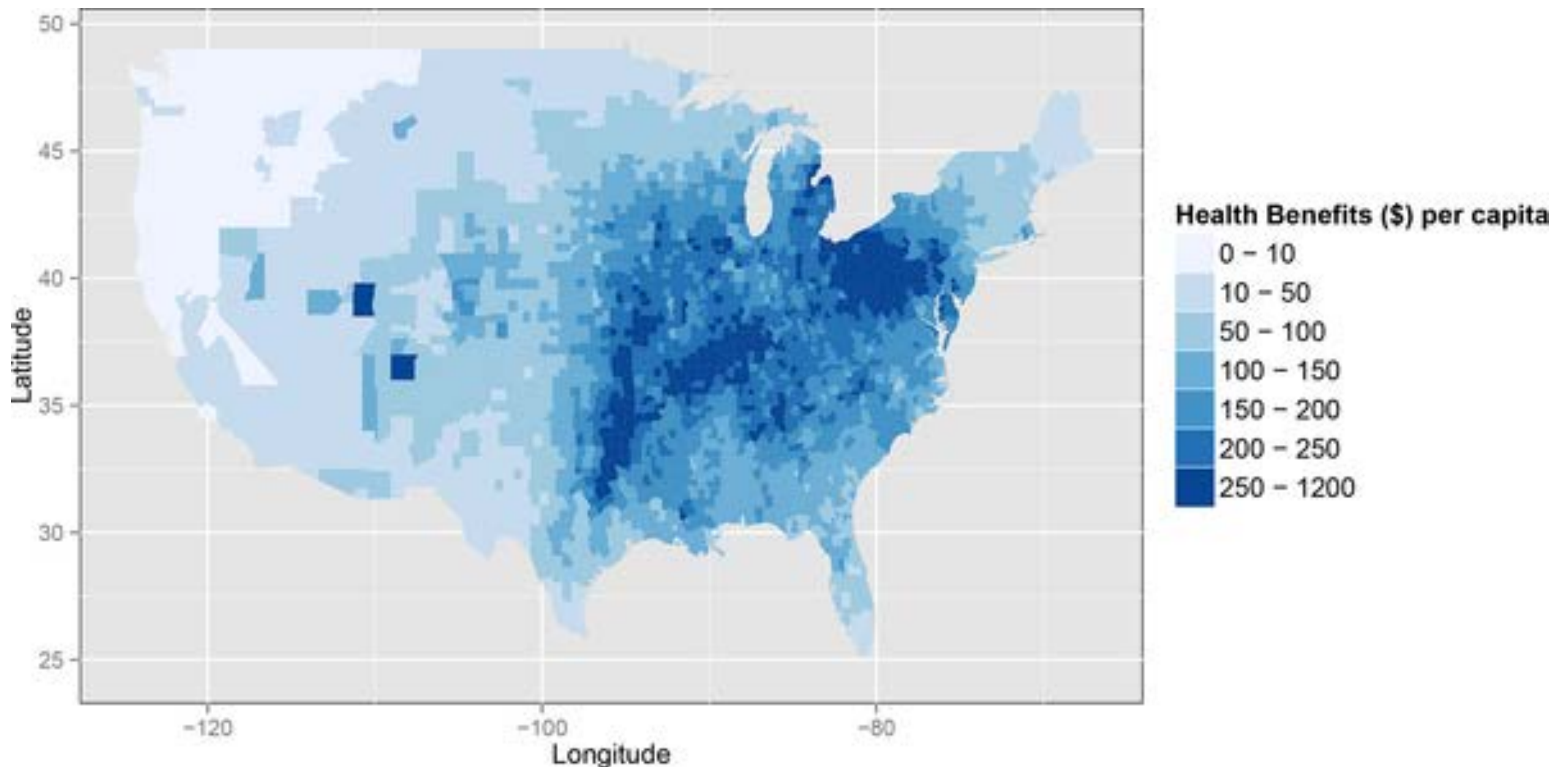


Note: Energy-related CO₂ emissions represent roughly three-quarters of all U.S. greenhouse gas emissions.

Source: Rhodium Group

JOHN MUYSKENS/THE WASHINGTON POST

Fig 2. Annual co-benefits per capita for 18 to 99 year-olds under moderately stringent, highly flexible carbon standards in 2020 (2010 USD).



Buonocore JJ, Lambert KF, Burtraw D, Sekar S, Driscoll CT (2016) An Analysis of Costs and Health Co-Benefits for a U.S. Power Plant Carbon Standard. PLOS ONE 11(6): e0156308. <https://doi.org/10.1371/journal.pone.0156308>
<https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0156308>

Samantha Williams
Midwest Director, Climate & Clean Energy Program

NATURAL RESOURCES DEFENSE COUNCIL
20 N. WACKER DRIVE, STE 1600, CHICAGO IL 60606
OFFICE: 312-651-7930 | SWILLIAMS@NRDC.ORG | WWW.NRDC.ORG



Energy from more than 1,200 solar panels powers Benjamin Freund's 650-acre dairy farm and home in East Canaan, Conn.

Solar Projects Sow Tension

As panels supplant crops on more farms, states weigh limits on big renewable fields

By JOSEPH DE AVILA

The boom in solar energy is forcing states and farming communities to grapple with where large renewable-energy projects should be built.

In Connecticut, a state senator has proposed a bill that would discourage the use of farmland for solar projects.

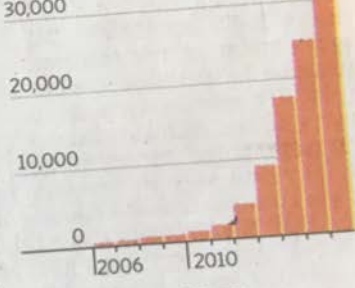
tion of Counties. The pressure in rural areas stems, in part, from simple economics. Some farmers are installing solar panels on a patch of their land to help offset energy costs. Other farmers are renting out entire fields to solar companies that can afford to pay premium prices for access to clear fields that don't require much work or money to prepare for a solar project.

"Of course, there can be local tension in terms of what people are used to on the farmland, what people like to see in a rural environment," said Amit Ronen, director of

On the Bright Side

U.S. solar power generation in thousand megawatt hours

2016: 36,755



Source: Department of Energy
THE WALL STREET JOURNAL.

whelming opposition," said Mr. Scanlon. The county denied the application.

Benjamin Freund, who has a dairy farm in East Canaan, Conn., in recent years installed more than 1,200 solar panels on a patch of his land and on top of his dairy barn. The generated power offsets his entire \$6,000 monthly energy bill.

He said he doesn't like competing with solar companies when he needs access to other farmland, but he also doesn't like being told what he can build on his property.

"From a property rights standpoint, this is a heavy-handed way to say that my property no longer has this de-





DEEP DIVE

Pollinator habitats: The bees' knees of rural solar development

As utility-solar grows, environmentalists, academics and beekeepers encourage utilities to consider their ecological footprint more holistically.

Turfgrass

Maximum root depth 3-6 inches



Native Grasses & Forbs

Common root depth 4-6 feet

Kentucky
Blue Grass
*Poa
pratensis*

Little
Blue Stem
*Andropogon
scoparius*

Blue
Gramma
*Bouteloua
gracilis*

Purple
Prairie
Clover
*Petalostemum
purpureum*

June
Grass
*Koeleria
cristata*

Cylindric
Blazing Star
*Liatris
cylindracea*

Buffalo
Grass
*Buchloe
dactyloides*

Blue
Gramma
*Bouteloua
gracilis*

Little
Blue Stem
*Andropogon
scoparius*

June
Grass
*Koeleria
cristata*

Buffalo
Grass
*Buchloe
dactyloides*

Pale
Purple
Coneflower
*Echinacea
pallida*

Prairie
Dropseed
*Sporobolus
heterolepis*

Side Oats
Gramma
*Bouteloua
curtipendula*

Solar Site Management for Soil, Storm Water, and Pollinator Benefits

Ro
Adapted with perm

Organic Valley launches community solar partnership to be 100 percent renewably powered by 2019

Farmer-owned cooperative will become the largest food company in the world to source all its electricity from renewable resources within the decade.



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BRIEF

In bid to help bees, Xcel to require vegetation disclosure in solar RFPs

AUTHOR

[Catherine
Morehouse](#)
[@cmorehouse10](#)

Dive Brief:

- Xcel Energy Minnesota announced Friday it will be the first utility in the U.S. to require disclosure of what type of vegetation will be planted with



MONONA TERRACE

