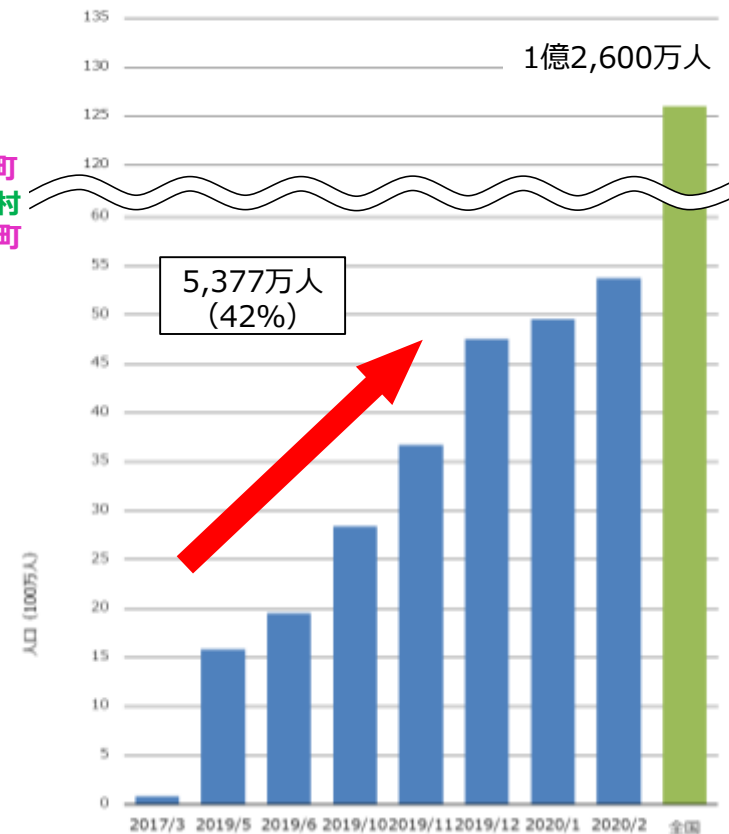
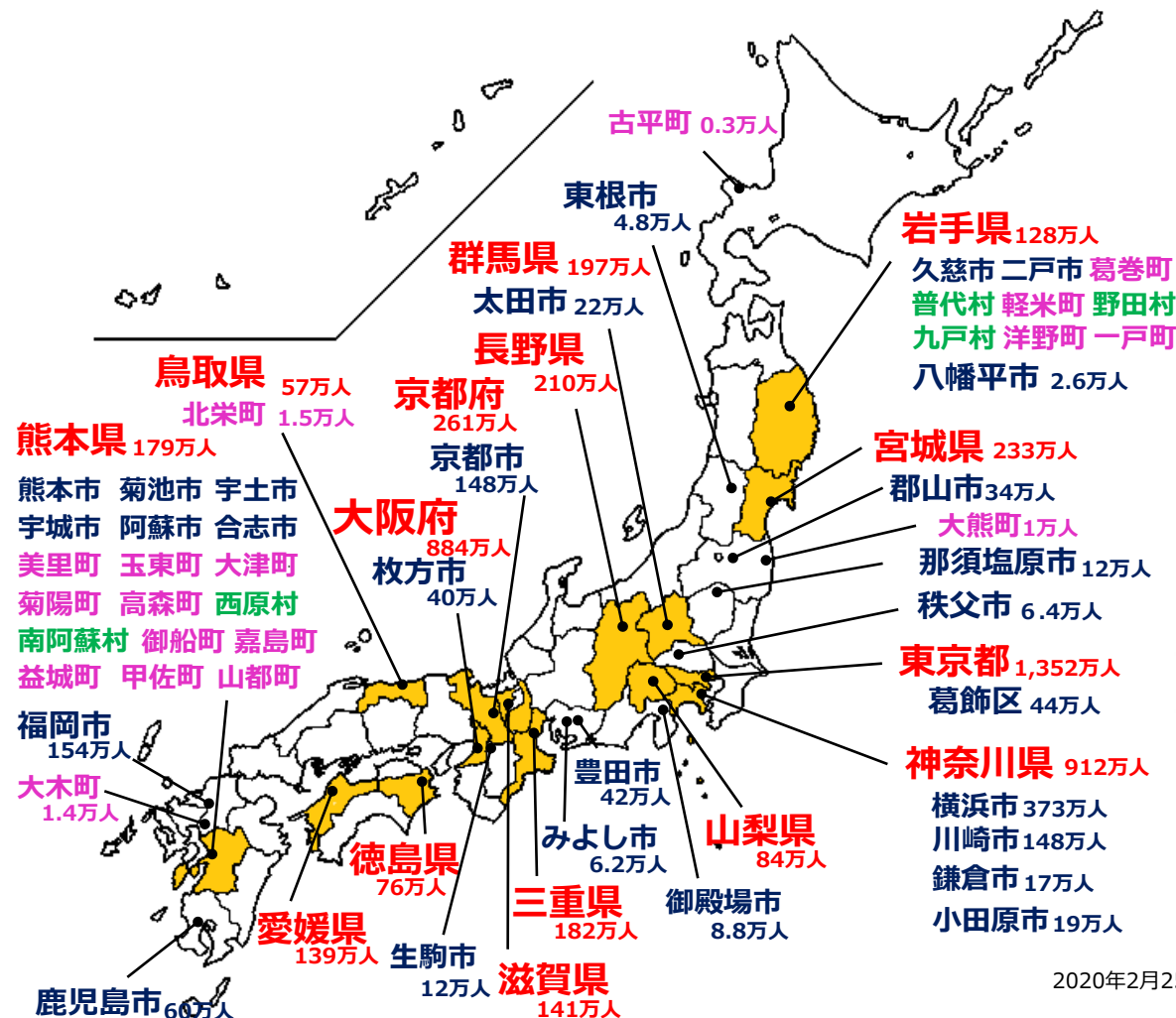


2050年 二酸化炭素排出実質ゼロ表明 自治体

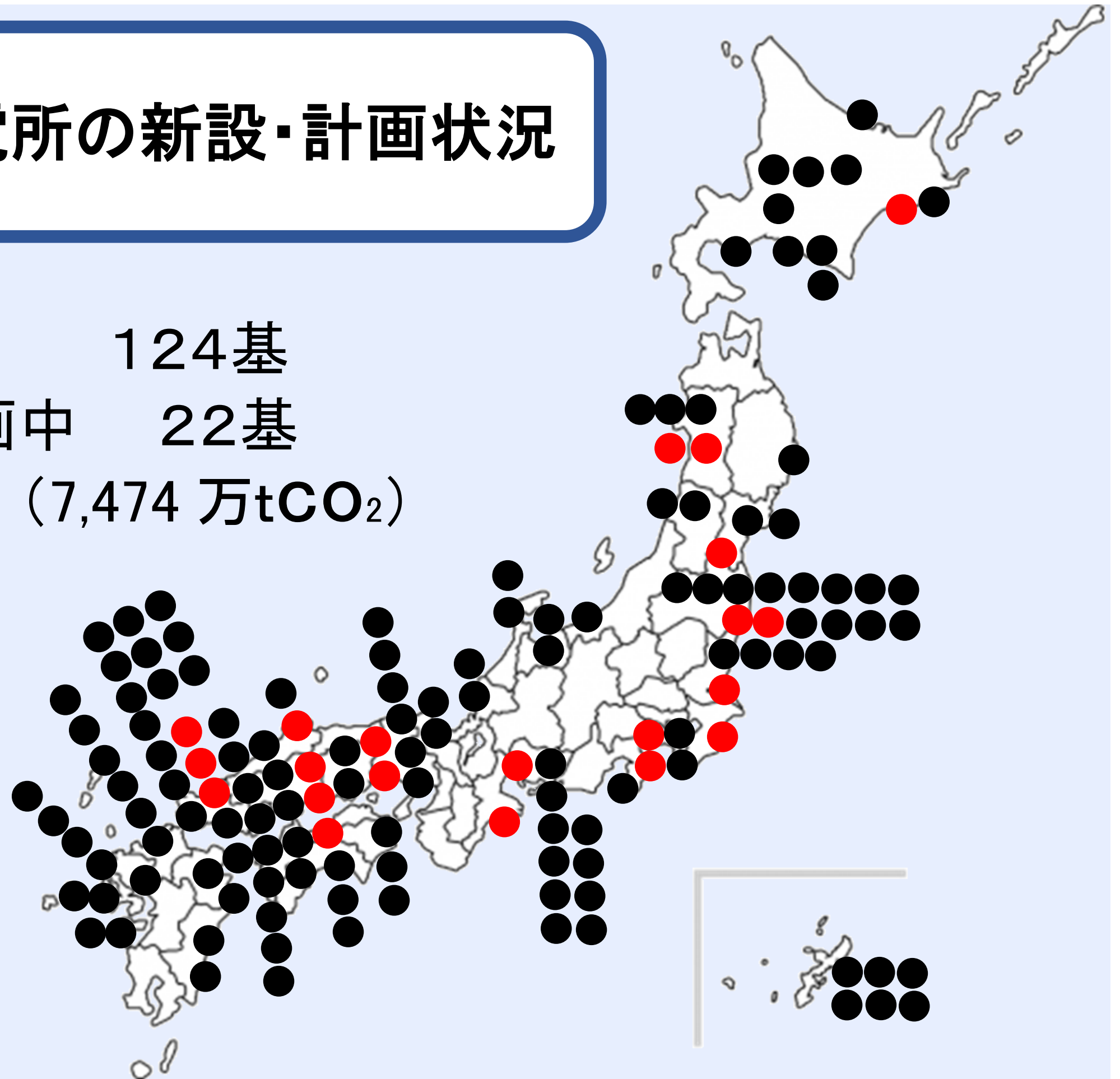
- 東京都・京都市・横浜市を始めとする65の自治体（15都府県、26市、1特別区、18町、5村）が「2050年までに二酸化炭素排出実質ゼロ」を表明。
- 表明した自治体を合計すると人口は約5,377万人、GDPは約269兆円となり、日本の総人口約42%を占めている。

(2020年2月21日時点)



石炭火力発電所の新設・計画状況

- 稼働中 124基
- 建設中～計画中 22基
(7,474 万tCO₂)



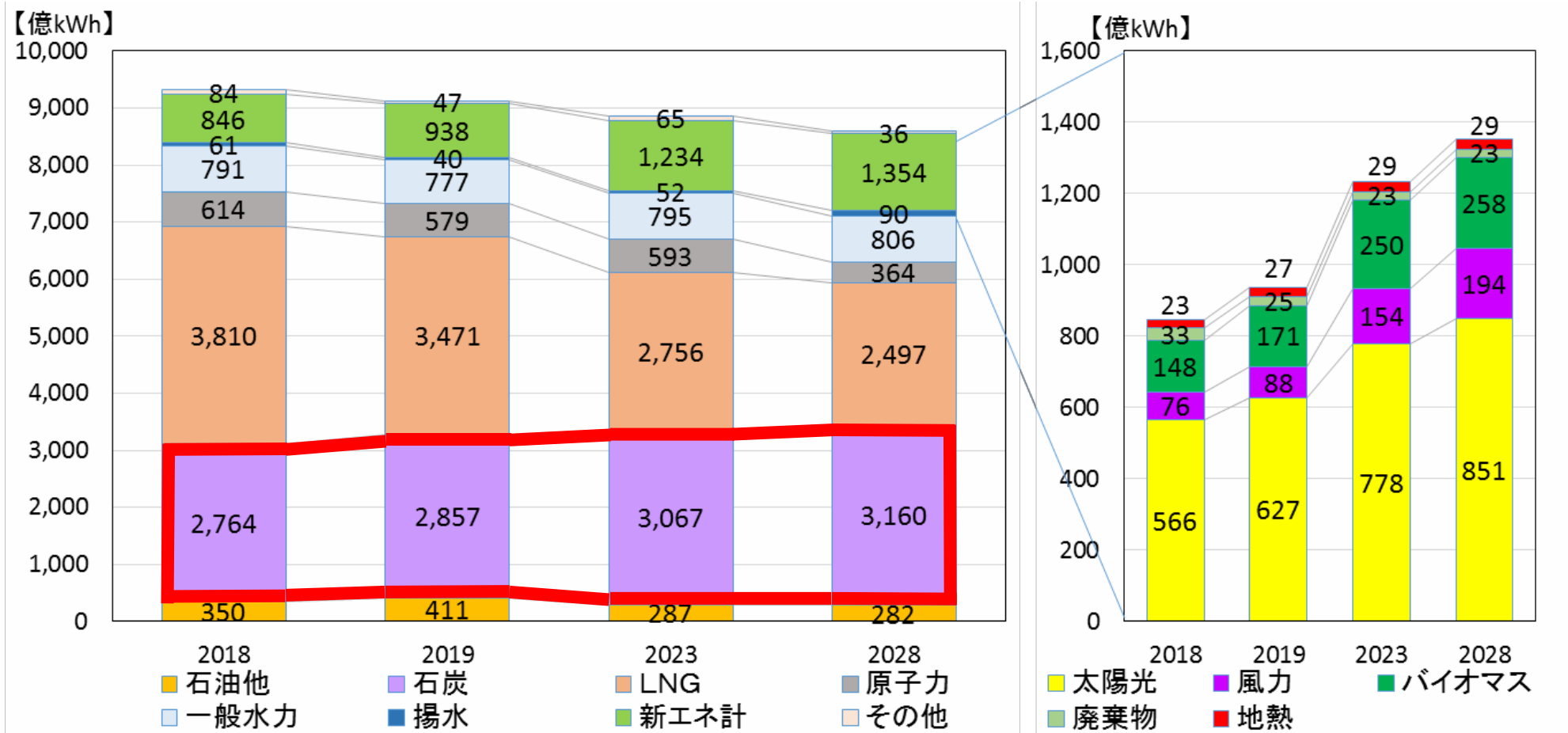


図 3－2 電源別発電電力量の推移（全国合計）²⁰

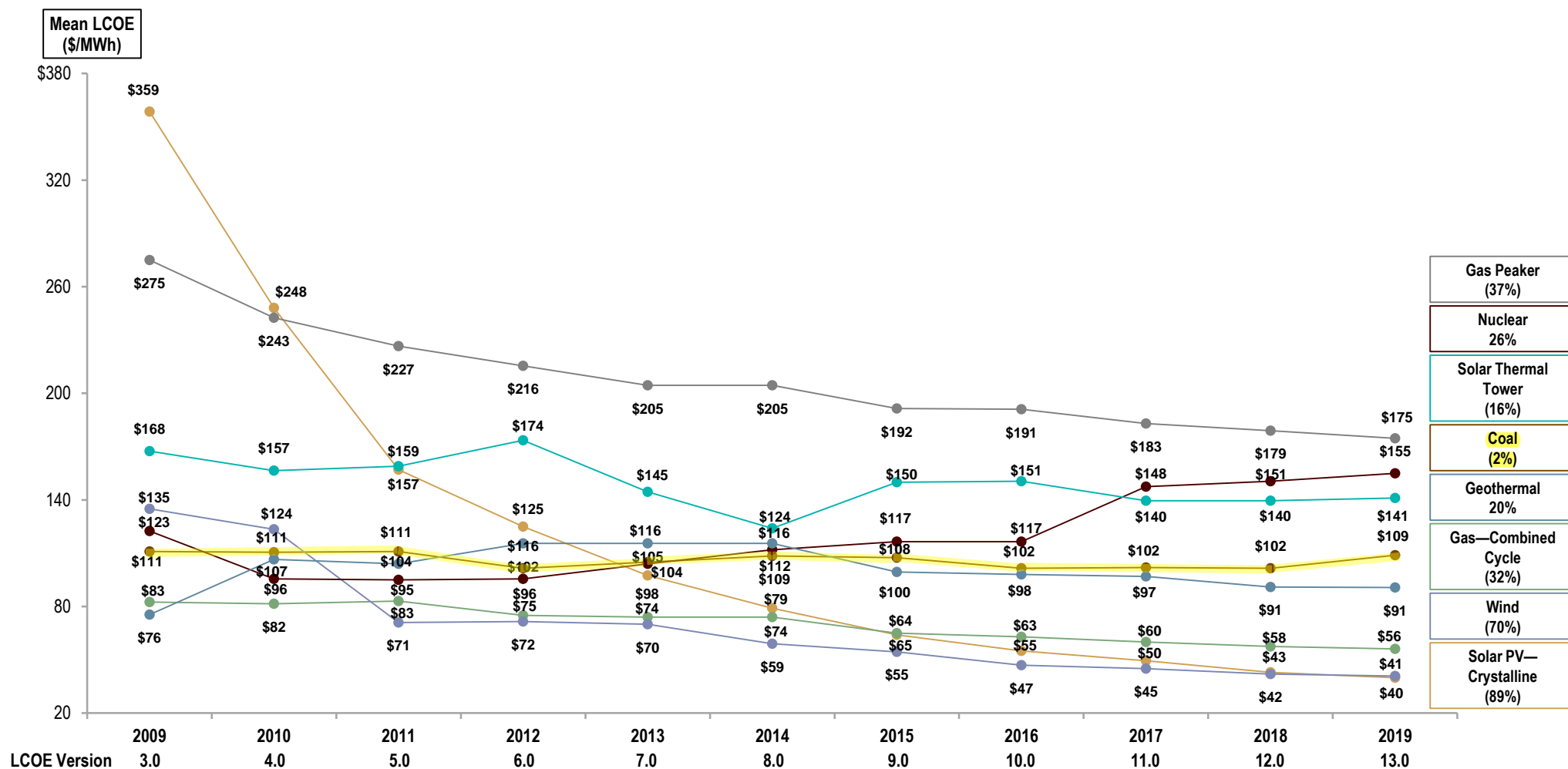
LAZARD

LAZARD'S LEVELIZED COST OF ENERGY ANALYSIS—VERSION 13.0

Levelized Cost of Energy Comparison—Historical Utility-Scale Generation Comparison

Lazard's unsubsidized LCOE analysis indicates significant historical cost declines for utility-scale renewable energy generation technologies driven by, among other factors, decreasing capital costs, improving technologies and increased competition

Selected Historical Mean Unsubsidized LCOE Values⁽¹⁾



LAZARD
 Copyright 2019 Lazard

Source: Lazard estimates.

(1) Reflects the average of the high and low LCOE for each respective technology in each respective year. Percentages represent the total decrease in the average LCOE since Lazard's LCOE—Version 3.0.

CLEAN JOBS AMERICA

NEARLY 3.3 MILLION CLEAN ENERGY JOBS¹

In every region and every state in America, clean energy is creating jobs and careers.

Nationwide, more than 110,000 net new clean energy jobs were created in 2018, bringing the total number of Americans who work in clean energy to 3.26 million.

While jobs in solar declined in part because of tariffs on steel and solar panels, wind energy jobs grew by nearly 4 percent and now competes with fossil fuels in many markets.²

Energy efficiency continues to lead the clean energy sector in total number of jobs, growing 3.4 percent to 2.3 million jobs.

But the big story in 2018 was around clean vehicles and storage.

Driven by growing consumer demand, the number of jobs in clean vehicles manufacturing increased by 16 percent. About 254,000 Americans now work at companies building hybrid, electric and other clean vehicles, while another 486,000 Americans work in companies that manufacture parts that make vehicles more efficient.

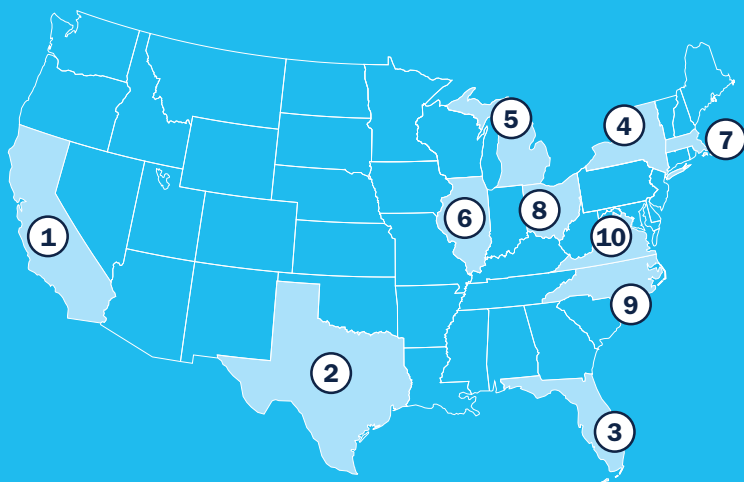
Energy storage saw a 14 percent increase in jobs as utilities, businesses and consumers deployed

more batteries in EVs and with solar and wind installations, while grid modernization jobs grew by 3.3 percent.

Smart state policies continue to drive much of the growth in clean energy and the jobs and investments that come with it. But with a new Congress comes new opportunities to pass meaningful legislation on a federal level to keep these jobs growing nationwide. See sidebar for more.

TOP 10 STATES FOR CLEAN ENERGY JOBS

RANK	STATE	TOTAL*	SOLAR	WIND	ENERGY EFFICIENCY	CLEAN VEHICLES
1	California	512,934	126,507	5,785	318,542	22,389
2	Texas	233,447	11,433	25,386	162,816	17,800
3	Florida	158,652	10,528	4,461	118,412	9,360
4	New York	156,059	11,603	3,491	123,292	8,624
5	Michigan	126,081	5,419	4,783	85,061	25,304
6	Illinois	123,247	5,341	8,706	89,469	10,417
7	Massachusetts	116,491	16,527	1,983	86,473	3,184
8	Ohio	112,486	8,108	1,080	81,676	16,646
9	North Carolina	110,913	8,912	908	86,559	7,280
10	Virginia	95,158	4,241	1,628	78,670	5,436



* Total includes renewable energy, energy efficiency, clean vehicles, battery storage, advanced biofuels, low-impact hydro and other sectors.

CLEAN ENERGY GROWTH IN PERSPECTIVE

110,000

Clean energy jobs grew 3.6 percent in 2018, adding jobs in nearly every state and combining to add over 110,000 net new clean energy jobs nationally.

12

Number of states that have or are considering policies that get 100 percent of their electricity from clean energy sources.

3X

Clean energy jobs outnumbered fossil fuel jobs nearly 3 to 1 in 2018.

10

The number of states that generate more than 20 percent of their electricity from wind and solar—Kansas, Iowa, Oklahoma, North Dakota, South Dakota, Vermont, California, Maine, Colorado, and Minnesota.³

156 GW

Combined capacity of installed solar and wind surpassed 150GW in 2018. Wind energy is the largest source of renewable generating capacity. A new solar project is installed in America every two minutes.^{4,5}



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出典: "Clean Jobs America 2019: Nearly 3.3 Million Clean Energy Jobs," E2 Report, 2019.3
2020年2月25日衆議院予算委員会第7分科会配布資料© 日本共産党 藤野保史

MARCH 2019
E2FS: 19-03-D

of the emissions reductions needed from these firms to achieve the 2°C goal set by the international community, also falling short of the 1.5°C goal. Self-determined targets only amount to one-tenth of potential emissions reductions by the private sector as a whole (CDP, 2016c). Macroeconomic policies (ILO, 2015) and infrastructure investment (OECD, 2017) can provide the necessary price signals, incentives, regulation and business environment to improve the measures taken and to achieve the 1.5°C or the 2°C goal.

Policies are needed if enterprise action is to bear fruit. During the 1990s, reliance on information disclosure, social licences and price signals to guide profit-seeking activity and other voluntary schemes offered only limited incentives for enterprises to adopt environmental practices. Smart regulation can enhance the motivation of current businesses to achieve sustainability, and stimulate the necessary motivation in other cases (Gunningham and Holley, 2016). In the United States, a US\$40 tax per CO₂eq ton emitted, coupled with border tax adjustments, could help to meet the Paris Agreement target, reduce the burden of emissions regulation and improve the well-being of most citizens (Bailey and Bookbinder, 2017; Baker et al., 2017). As further examined in Chapters 3, 4 and 5, pricing externalities and ecosystem services, environmental regulation, social protection, skills and access to finance can pave the way for firms, and the economy as a whole, to go green.

Conclusions

Chapter 1 showed that, from the perspective of the world of work, the transition towards a low-carbon and resource-efficient economy is urgent. This chapter shows that achieving environmental sustainability can lead to an economy that offers more jobs. Though there is sectoral reallocation, achieving sustainability does not destroy jobs at the level of the whole economy. Net job creation is expected if sustainability is embraced in the energy sector and by adopting some tenets of the circular economy. It shows that there is a sound business case for enterprises to adopt sustainability. Like Chapter 1, this chapter also demonstrates that the SDGs that promote environmental sustainability can be compatible with food security (SDG 2), clean energy (SDG7) and decent work for all (SDG 8).

Indeed, around 18 million jobs are expected to be created if, by 2030, there has been a transition in energy use towards greater efficiency and energy is sourced from renewables, as opposed to fossil fuels, in line with the IEA scenarios, if electric vehicle sales meet projections and any savings in energy efficiency are used to invest in building's energy efficiency. This net job creation masks an important restructuring of the economy, with employment losses expected in the fossil fuel sectors and related industries, and in regions that are heavily dependent thereon.

A similar transformation will affect the entire economy if agriculture embraces sustainability, with the effects depending on the sustainability path adopted. For some regions, particularly in developed countries, a transition may involve embracing organic agriculture. For others, particularly in developing countries, a decent work friendly and food security friendly sustainability path may mean adopting conservation agriculture. In either case, complementary policies will be needed to ensure that these changes enhance decent work in the agriculture sector and that any employment losses can be used as an opportunity to guide the structural transformation in developing countries.

Moreover, the redistribution of economic activity and jobs will affect different sectors, as sustainability in one sector affects the chain of inputs. While this is true for all forms of sustainability, this is clearly seen in the employment changes associated with the adoption of a circular economy. By replacing the extraction of resources and the manufacture of goods for ownership by the reuse, repair, recycling and renting of goods, employment will move away from extraction and manufacturing into reprocessing, waste management and services. Overall, these findings suggest that the achievement of a green economy can enhance employment opportunities. They also emphasize that the transition requires support for workers, industries and regions from which employment opportunities are displaced. This support needs to be accompanied by incentives to ensure that they too put their weight behind the transition.