Climate Transition Risk Cuts Both Ways

Greg Hopper & Bill Nelson | April 22, 2026

Since the adoption of the 2015 Paris Accord, global bank regulators and supervisors have focused on management of climate transition risk. Transition risk is the possibility that changes in government policies, legal decisions, technology or market demand may make fossil fuel or renewable energy technologies either more or less valuable. Bank regulators have almost exclusively presented transition risk as one-sided: green investments reduce transition risk. The emphasis has been on the risk that financing fossil fuel projects will lead to bank losses when government policies designed to reduce carbon emissions are implemented. For example, if a bank finances a fossil fuel project and the project loses value because the government establishes a carbon tax, the bank could face losses. Regimes targeting specified reductions in carbon emissions[1] such as those promoted by the Science Based Target Initiative[2] assume that transition risk only arises when banks are not moving their financing away from fossil fuels and towards green energy projects.

The risk that financing renewable energy projects could lead to losses has been almost ignored. But if a bank finances a green energy project and the project loses value because the government ended a critical subsidy, the bank could also face losses.[3,4] Transition risk, therefore, is two-sided.

Bank Policy Institute research has consistently cautioned that transition risk applies to financing both brown and green projects. For example, a 2021 note pointed out that, "although never mentioned, there could also be systemic risk if green firms all did poorly at the same time as a result of …withdrawal of green energy subsidies by an Administration skeptical of climate change" and that "bank regulators should perhaps be hesitant to use the examination process to mandate shifts in asset mix for assumed but unproven safety and soundness or financial stability reasons."[5] Similarly, a 2024 note concluded that "[r]egulators should not encourage or require banks to

[1] See https://sciencebasedtargets.org/
[2] European Central Bank Banking Supervision, "Risks from misalignment of banks' financing with the EU climate objectives: assessment of the alignment of the European banking sector," January 2024, available at https://www.bankingsupervision.europa.eu/ecb/pub/pdf/ssm.bankingsectoralignmentreport202401~49c6513e71.en.pdf
[3] See https://sciencebasedtargets.org/
[4] European Central Bank Banking Supervision, "Risks from misalignment of banks' financing with the EU climate objectives: assessment of the alignment of the European banking sector," January 2024, available at https://www.bankingsupervision.europa.eu/ecb/pub/pdf/ssm.bankingsectoralignmentreport202401~49c6513e71.en.pdf
[5] Nelson, B., "Green Lending: Is Regulatory Exuberance Irrational (And a Little Dangerous)?", Bank Policy Institute, 2021, available at https://bpi.com/green-lending-is-regulatory-exuberance-irrational-and-a-little-dangerous/

quantify transition risk by measuring the consistency of its credit portfolio with an emission reduction scenario."[6] A 2025 note reiterated that "[e]mission targets used as transition risk management tools can increase risk since they assume that transition risk can go only one way—towards more decarbonization. However, transition risk can go in either direction—towards more or less decarbonization—at different times and in different countries. Making the wrong assumption can lead to losses."[7]

When regulators' scenarios assume that transition risk is one-directional, stress test results can become biased and discourage portfolio diversification. Whether this assumption is made as an effort to align supervisory practice with climate policy goals—or for other reasons—it risks underestimating exposures that could emerge if policy direction or market sentiments shift. A more accurate approach would incorporate transition scenarios with both upward and downward policy shocks, preserving the value of the analysis while also recognizing the inherent uncertainty of political and technological developments.

In this post, we review recent developments in transition risk, showing how two-sided transition risks have arisen in practice and led to bank losses on loans to green firms. Bank risk management departments must take a nuanced approach in managing transition risk, looking at the specific details of each transaction rather than assuming green investments always reduce transition risk. If regulatory authorities are to avoid increasing risks in the financial system, they should refrain from issuing guidance or expectations requiring banks to assume transition risk can go in only one direction.

Electric Vehicle Developments

As reported in table 1, after strong electric vehicle (EV) sales growth last year in most regions of the world, except for the large North American market in which sales declined 4 percent, every region is now expected to see slowing EV sales growth, including a sharp deceleration in Europe and a drop of 29 percent in North America.[8]

Table 1

REGION	ELECTRIC VEHICLE SALES GROWTH	
	2025	2026 (EXPECTED)
Global	20%	Slowing
China	17%	Slowing
Europe	33%	14%
North America	-4%	-29%
Rest of World	48%	Slowing

Source: Benchmark Mineral Intelligence

EV sales in China are expected to continue to grow, albeit at a slower pace, because of new sales tax incentive reductions and the reduction of subsidies. In the European Union, lobbying by automotive manufacturers produced a rollback of a requirement that tailpipe emissions be reduced by 90% by 2035, which would effectively

[6] Hopper, G., "How Should Banks Manage Climate Transition Risk?", Bank Policy Institute, 2024, available at https://bpi.com/how-should-banks-manage-climate-transition-risk/
[7] Hopper, G., "The trouble with targets: Unintended consequences for the financial system and the economy. https://bpi.com/the-trouble-with-targets-unintended-consequences-for-the-financial-system-and-the-economy/
[8] See Benchmark Mineral Intelligence, "Global EV sales reach 20.7 million units in 2025, growing by 20%," 2026, available at https://source.benchmarkminerals.com/article/global-ev-sales-reach-20-7-million-units-in-2025-growing-by-20

ban internal combustion powered vehicles.[9] In North America, EV sales are expected to sharply decline, driven by the withdrawal of federal tax credits in the United States and waning government support for the EV sector.

Table 2 shows the average losses per EV for major auto manufacturers. From 2022 to 2025:Q3, analysis of data from auto manufacturers that report both EV sales and net revenue show that the cumulative losses for these EVs were $140 billion.[10] The average loss per EV over that period was about $25K. The Big 3 U.S. manufacturers—Ford, GM and Stellantis—took a cumulative charge of $52.1 billion from their pull back from EV production, which exceeded their annual profits.[11] For example, Ford took a $19.5 billion write-down, with $8.5 billion allocated to the cancellation of EVs, most notably the fully electric F-150 Lightning truck, which will be replaced by a hybrid model. Losses on EVs contributed to Ford experiencing its largest quarterly loss since 2008 in 2025Q4.

Table 2

AUTOMAKER	EVS PRODUCED, 2022-3Q25	AVG LOSS/EV
Ford	301,948	($116,245)
GM	374,963	($38,670)
Stellantis	1,313,000	($27,418)
Mercedes Benz	643,900	($13,201)
Volkswagen	2,610,500	($5,938)
Rivian	172,355	($113,719)
Lucid	31,107	($340,438)
Total	5,447,773	($25,660)

Source: Bryce (2026)

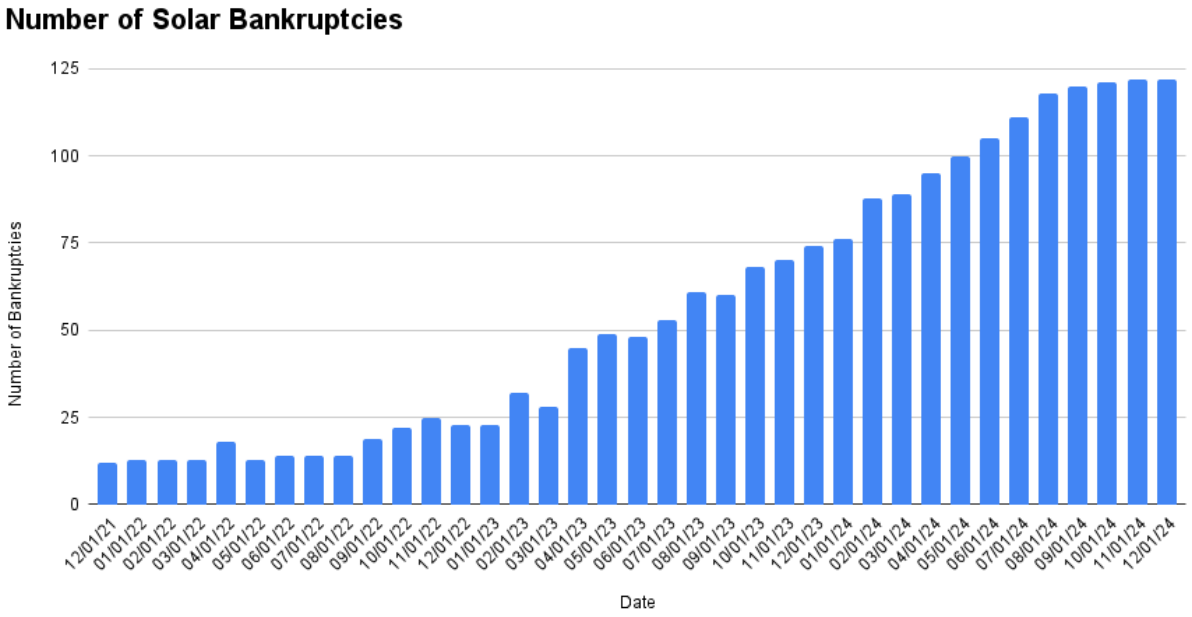
Solar energy has continued to grow, with 2.2 TW installed globally by 2024. China installed about 300 GW in 2024 and is expected to remain about half of the global solar energy market until at least 2030.[12] Nonetheless, profitability in the industry has not been uniform, with notable bankruptcies in the U.S. markets and financial stress on firms in specific markets, such as Spain.

The United States Solar Market

Figure 1 depicts cumulative solar bankruptcies in the U.S. market between December 2021 and December 2024. During this time, there were almost 125 solar company bankruptcies.[13]

[9] Ainger, J, Krukowska, E, and Nardelli, A, "EU To Abandon Combustion Engine Ban in Win for Carmakers," Bloomberg, 2025, available at https://www.bloomberg.com/news/articles/2025-12-16/eu-to-abandon-combustion-engine-ban-in-win-for-carmakers
[10] Bryce, B, "Stellantis Writes Down $26B on EVs, Shifts to 'Freedom of Choice,' 2026, available at https://robertbryce.substack.com/p/stellantis-writes-down-26b-on-evs
[11] Subramanian, P. "Big 3 automakers took $52.1 billion hit from EV pivot," Yahoo Finance, 2026, available at https://finance.yahoo.com/news/big-3-automakers-take-521-billion-hit-from-ev-pivot-142434779.html?guccounter=1
[12] International Energy Agency, "Snapshot of Global PV Markets 2025," 2025, available at https://iea-pvps.org/wp-content/uploads/2025/04/Snapshot-of-Global-PV-Markets_2025.pdf
[13] SolarInsure,"The Complete List of Solar Bankruptcies and Business Closures," 2026, available at https://www.solarinsure.com/the-complete-list-of-solar-bankruptcies-and-business-closures

Figure 1



Source: SolarInsure

These bankruptcies have been caused by high interest rates, which increase the cost of financing solar panel installations; labor shortages of certified solar installers; intense competition; and policy changes. In terms of the final item, reductions in solar installations in California resulted from the change from Net Energy Metering (NEM) 2.0 to NEM 3.0. Under NEM, utility customers with solar installations can get credits for excess energy generated by their solar panels. NEM 3.0, put into effect in 2023, cut the value of the credits by as much as 75% relative to NEM 2.0. The reduction in the subsidy reduced the perceived value of new solar installations.

Community banks, mid-sized banks and large banks have all been listed as creditors to California solar companies that have gone bankrupt in recent years.

The Spanish Solar Market

Solar power now represents about a quarter of total power production in Spain.[14] The rapid expansion of solar power has led to frequent periods of zero or negative prices.[15] As a result, the value of operational solar plants in Spain has fallen from €916,000 per megawatt to €648,000 per megawatt, putting pressure on profitability and credit ratings of solar companies.[16] In 2024, solar manufacturer Soltec entered pre-insolvency and Spanish regulatory authorities suspended trading of the stock.[17] Analysts have predicted a wave of bankruptcies in the sector.[18]

[14] Red Electrica, "Solar PV takes the lead in Spain's installed power capacity," 2025, available at https://www.ree.es/en/press-office/press-release/news/press-release/2025/02/solar-pv-takes-lead-spains-installed-power-capacity
[15] Ma, J, "Negative prices for electricity are getting more common in Europe and consumer costs have dipped—while Americans face rising energy bills," Yahoo Finance, 2026, available at https://finance.yahoo.com/news/negative-prices-electricity-getting-more-095500403.html
[16] Jopson, B., "Solar power surplus in Spain triggers 'discount season' for plants," Financial Times, 2025.
[17] Melina, P. "Soltec enters pre-insolvency as Spanish regulator suspends trading of shares," PV magazine, 2024, available at https://www.pv-magazine.com/2024/09/27/soltec-enters-pre-insolvency-as-spanish-regulator-halts-trading-of-shares/
[18] Bloo Power, "Renewable energy projects in Spain are facing a wave of bankruptcies," 2025, available at https://www.bloopower.com/news/renewable-energy-projects-in-spain-are-facing-85258963.html

Implications and Conclusions

These case studies have illustrated how the risks of investment in the renewable energy sector can manifest while the renewable energy sector continues to grow. Simply put, transition risk can go either way. In the case of EVs, even though EV adoption continues to grow, intense competition, policy shifts, and weak consumer uptake have led to large losses for automakers, increasing their credit risk to the financial institutions that finance them. In the case of solar power, the market is growing and strong in general, but if supply grows too fast, as it did in Spain, that could lead to bankruptcies and losses for the financial institutions that finance them.

These case studies only scratch the surface of the complexity of transition risks that bank risk management departments must evaluate. Regulatory authorities and external organizations should not define transition risk to be one-way only, or encourage banks to adopt emission targeting systems that assume one-way transition risk. Regulatory guidance that defines transition risk as one-way may only increase bank risk and increase risks in the financial system. Instead, regulators should encourage a robust transition risk management process that examines the special circumstances of each new deal. At a minimum, recognizing current political climate, climate risk scenarios should include cases where public policy moves against green firms and toward brown firms for many years before a shift back toward green firms. Fortunately, the recent Bank of England update to its guidance on bank management of climate risk[19] has recognized the two-sided nature of transition risk, a positive regulatory development.

The typical horizon used for climate stress testing of banks is 30 years. Even if it were reasonable to assume that 30 years from now government policy will be firmly set to combat climate change, a bank will still suffer a loss if a green energy firm goes bankrupt in the medium term. Thus, the conclusion that only green firms are safe from transition risk is warranted only if transition risk moves uniformly in one direction. At least one of the banks listed as a creditor to a bankrupt solar firm may have been running the Network For the Greening of the Financial System's (NGFS) Net Zero 2050 scenario, which assumed "an immediate and rapid decrease of fossil fuel consumption (oil, coal and gas), and subsequent increase in renewable energy use (mostly solar and wind resources) government policy would shift uniformly in support of zero carbon emissions," when making its lending decision.[20] It should be noted that the Federal Reserve withdrew from the NGFS over a year ago, however.

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[19] Bank of England, "Supervisory Statement 5/25-Enhancing Banks's and Insurers' Approaches to Managing Climate Related Risks" 2025, available at https://www.bankofengland.co.uk/-/media/boe/files/prudential-regulation/supervisory-statement/2025/ss425-december-2025.pdf

[20] Network for Greening the Financial System, "NGFS long-term scenarios, narratives and key findings: Net Zero 2050, Current Policies and Fragmented World," p. 14