



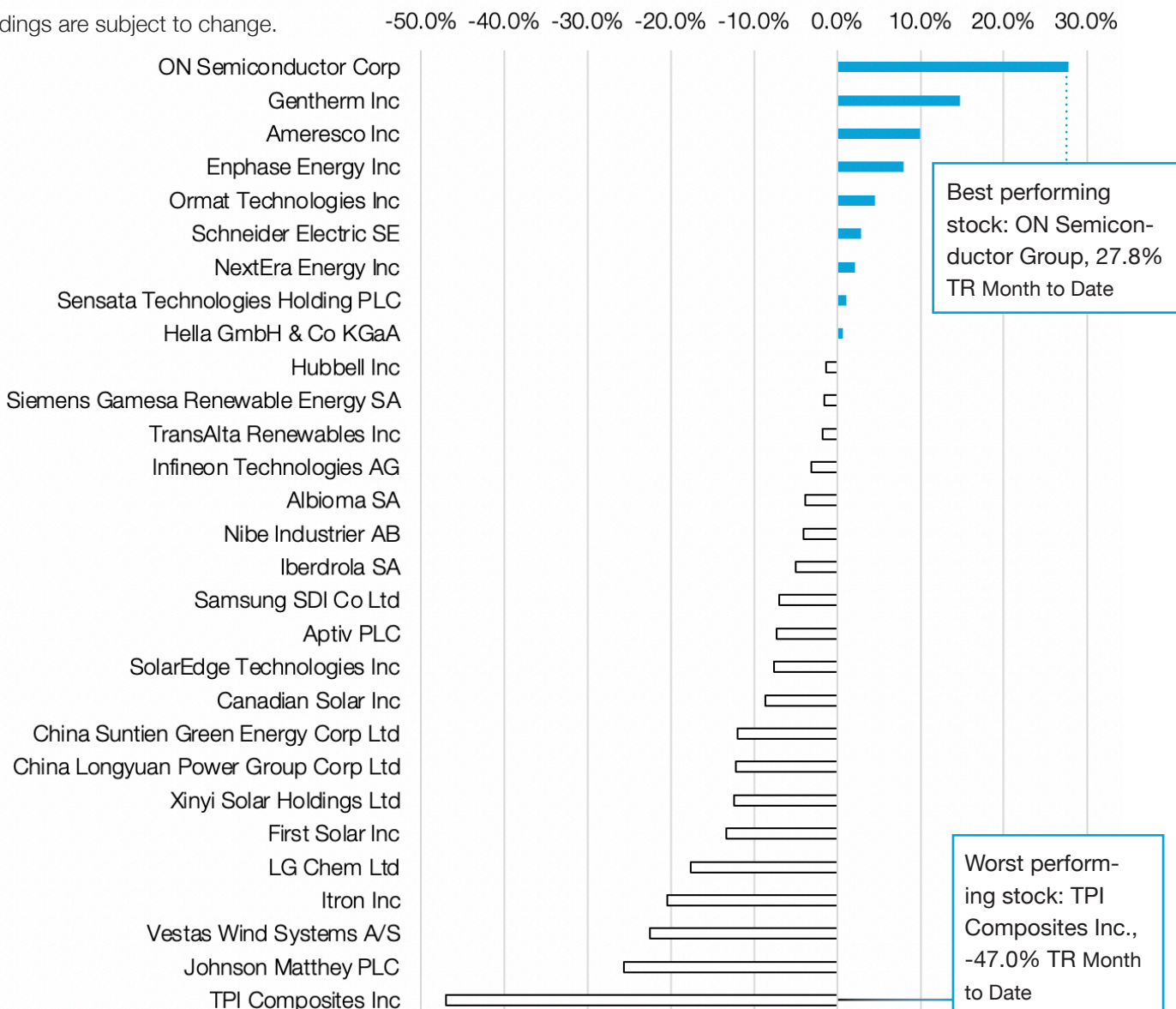
Portfolio Performance

as of 11/30/2021

Sustainable energy equities underperformed global stock markets during November. Over the month, SOLR delivered a return of -4.36% on (NAV basis), which was behind the MSCI World at -2.19%. Year to date, SOLR has delivered a return of 12.14% (NAV basis) which was behind the MSCI World at 16.82%.

In the portfolio, the strongest performers were our US electric vehicle component manufacturers, including ON Semiconductor Group, which benefitted from strong Q3 results/outlook, and Gentherm, which rebounded after Q3 results at the end of October were initially taken poorly. Ameresco and EnPhase Energy continued to be strong performers. Weaker performers included TPI Composites, Johnson Matthey, and Vestas Wind Systems. In this monthly report, we review some of the key outcomes of COP26 and the implications for the energy transition.

Holdings are subject to change.





Portfolio Performance

As of 11/30/2021	1 Month	6 Months	YTD	Since Inception (11/11/20)
SOLR at NAV	-4.36%	8.43%	12.14%	30.88%
SOLR at Market Price	-4.96%	8.45%	12.00%	33.50%
MSCI World NR	-2.19%	4.88%	16.82%	25.44%

As of 9/30/2021	1 Month	6 Months	YTD	Since Inception (11/11/20)
SOLR at NAV	-3.55%	6.65%	9.05%	29.08%
SOLR at Market Price	-3.67%	6.31%	8.53%	31.32%
MSCI World NR	-4.15%	7.74%	13.04%	21.37%

Expense Ratio: 1.91% (gross) | 0.79% (net)

The Adviser has contractually agreed to reduce its fees and/or pay ETF expenses in order to limit the Fund's total annual operating expenses to 0.79% through June 30, 2025.

Performance data quoted represents past performance and does not guarantee future results. The investment return and principal value of an investment in the Fund will fluctuate so that an investor's shares, when redeemed, may be worth more or less than their original cost. Current performance of the Fund may be lower or higher than the performance data quoted. Performance data current to the most recent month-end may be obtained by visiting SmartETFs.com, or calling (866) 307-5990. The returns shown are cumulative for the period, not annualized. Market prices return is based on the market price of Fund shares as of the close of trading on the exchange where the shares are listed.

Interesting News

The new International Energy Agency (IEA) Renewables report has reported that 280 gigawatts (GW) of new renewable energy generation capacity was installed in 2020, marking a record year for new installations. According to the report, renewable energy generating capacity will exceed that of fossil fuels and nuclear energy combined by 2026 (based on current trends) but this level of growth is still only about half that required to meet net zero carbon emissions by mid-century.

China Petroleum & Chemical Corporation (Sinopec) has started construction of what it believes to be the world's largest solar-to-hydrogen project with an annual production target of 20,000 tons of renewable (green) hydrogen by mid-2023. The company plans to spend nearly US\$0.5bn on the construction of the electrolyzer plant in Xinjiang which will be served by a 300MW solar plant. The green hydrogen will be used in the company's own petrochemical and refining operations.

Royal Dutch Shell has decided not to invest in the planned Cambo oil field located northwest of the Shetland Islands

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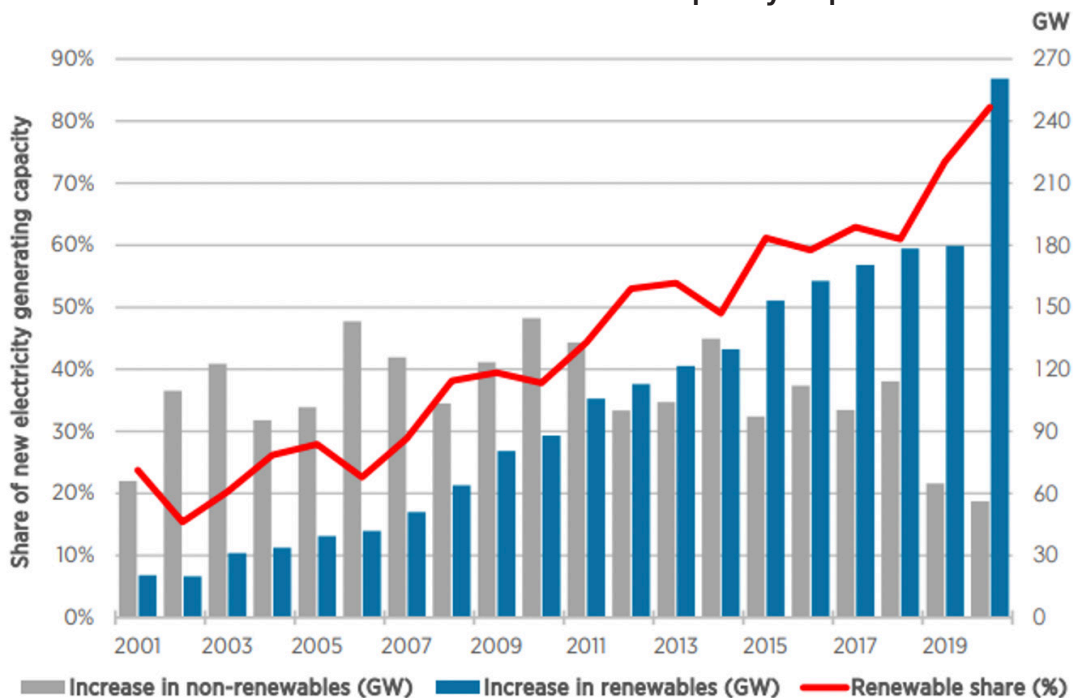


Interesting News

in the UK North Sea. The field was planned to deliver 170mn barrels of oil and 53bn cubic feet of natural gas and had recently become a target for environmental campaigners. Shell concluded that “the economic case for investment in this project is not strong enough at this time”

There was a surge in new renewable power generation capacity in 2020 taking the share of renewables in total capacity expansion to 82%, from 73% in 2019. As a result, the renewable share of total installed generation capacity rose by two

Renewable Share of Annual Power Capacity Expansion



Source: IRENA

Manager’s Comments

Review of COP26 and Implications for Sustainable Energy

This month, we review some of the key outcomes of COP26 and the implications for the energy transition. While new pledges and alliances were agreed based around a 1.5° temperature increase target, post-COP26 pledges/targets still imply warming well in excess of 1.5°. We assess the investment implications of COP26 and the implication for the energy transition as a whole.

COP26 ended on November 12, and we have now had a chance to consider the various announcements and agreements and to consider implications for the sustainable energy sector. The conference delivered incremental progress:



Manager's Comments (cont.)

new net zero targets; additional country pledges; and some top emitters either announcing new targets or confirming previous announcements. In this regard, India's new targets and 2070 net zero ambition was a significant surprise. We saw new pledges and alliances addressing methane emissions, deforestation, the financing of overseas hydrocarbon developments, zero emissions vehicles and steel. Among the new alliances, the climate co-operation announced between the US and China was the stand-out.

The final COP26 agreement was the first ever to reference coal, although there was disappointment that "phasing out" coal was toned down to "phasing down" coal in the final version of the agreement.

In our view, the achievements made at COP26 were better than feared, but not as good as hoped. And from the perspective of investing in the energy transition, we found the following to be particularly interesting:

- **The target has shifted to 1.5 degrees rather than "below 2 degrees"**. The focus of the climate debate has now clearly shifted from the 2015 Paris Goal of "limiting global warming to well below 2°, preferably to 1.5° Celsius" to a specific 1.5° target. We see this as significant: the difference between achieving 1.5° and 2°, in terms of the pace and size of the clean energy transition, is substantial. The half a degree of difference requires an additional c.850GT of carbon emissions to be rapidly avoided, equivalent to one third of total historical global carbon emissions between 1850 and 2019.
- **The Paris rulebook has been approved**. An agreement on Article 6 (the "Paris rulebook"), which helps to "promote an integrated, holistic and balanced approach to assist governments in implementing their Nationally Determined Contributions (NDCs) through voluntary international cooperation", has been achieved. Article 6 provides a policy foundation for an emissions trading system, a first step on the path to the implementation of a global price on carbon. We view carbon pricing as critical to achieving the energy transition, although a global scheme is still some years away.
- **Annual ratcheting of NDCs**. In a measure that will help to maintain the momentum achieved at COP26, NDCs will now have to be updated annually, rather than every five years. The next update will be required at COP27 at the end of 2022, with countries requested to strengthen their 2030 targets. The higher frequency of NDC updates underlines the urgency with which the UN believes that new climate commitments will be required.
- **Investment**. One of the four defined goals of COP26 was to agree how developed countries would make good on their promise to mobilize at least \$100bn in climate finance per year for developing countries by 2020. The media have focused on the \$100bn target not being achieved during the conference, but we note that investment commitments did increase, leaving the \$100bn target within reach in 2022/23.

To put the achievements of COP26 and the wider UN climate process into perspective, we have analyzed the work of Climate Action Tracker (CAT). CAT is an independent scientific analysis produced by two research organizations (Climate Analytics and the New Climate Institute) which has been provided to global policy makers since 2009. At the end of COP26, CAT forecasted the following:

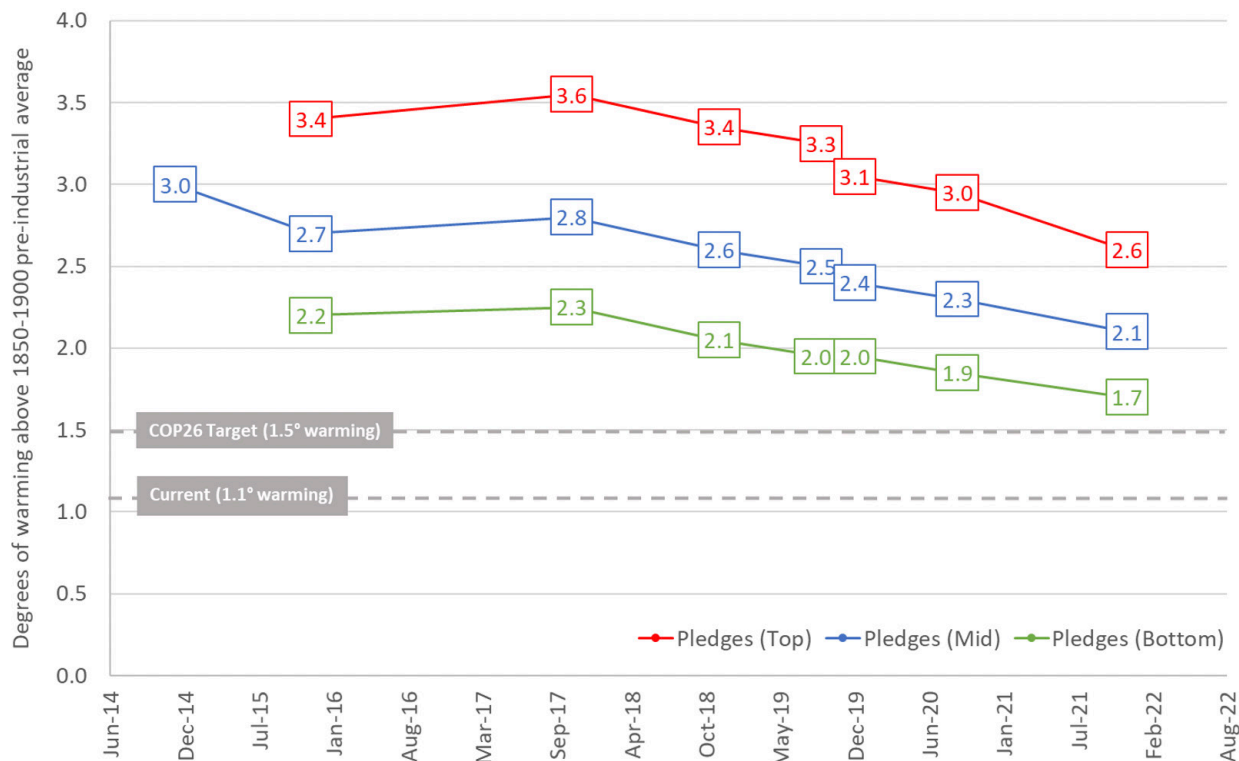


Manager's Comments (cont.)

- **Current policies.** If current country policies are sustained, a mid-point 2.7° increase in global temperature by 2100 (relative to the pre-industrial average temperature), with the range of outcomes being +2.0° to +3.6°.
- **Current pledges.** If all countries fully implement their submitted and binding long-term targets and 2030 NDCs made at COP26, a mid-point 2.1° increase in global temperature by 2100 (relative to the pre-industrial average temperature), with the range of outcomes being +1.7° to +2.6°.

To put these assessments into some context, we have tracked historical CAT reports and, after adjusting for the exit and return of the United States to the Paris Agreement, we find a trend of steady progress, culminating in the outcomes mentioned above.

Implied Warming from NDCs, Pledges, and Targets



Source: Climate Action Tracker; Guinness Atkinson Asset Management estimates

We can see from the chart that the decisions made in association with COP26 are part of a trend in reducing expected temperature increases. According to CAT analysis, expected temperature increases have fallen from 2.7° (after COP15 in Paris in late 2015) to 2.1° after COP26. Recent pledges are a step on the journey to 1.5° but the additional steps required to get there are still very significant and becoming increasingly urgent, according to IPCC analysis.

- In terms of **current pledges**, ratcheting NDCs to reduce expected warming from 2.1° to 1.5° would require a further reduction of in excess of 1,000GT of CO₂ (equivalent to the total emissions from the combustion of fossil



Manager's Comments (cont.)

fuels over the last forty years) from being emitted. This would require governments rapidly to wean their economies off fossil fuels, especially coal.

- In terms of **current policies**, reducing warming from 2.7° to 1.5° implies a significant uplift in investment and real activity. Based on data from the IEA, actual investment in clean energy generation would need to average \$2.6trn per annum by 2030 - more than treble the recent investment of around \$0.7trn. By our estimates, solar power generation would need to grow at a rate of around 24%per annum (pa) in the 2020s and wind would need to grow at around 16%pa (both these rates being substantially higher than our base case estimates of 17%pa and 12%pa respectively). In addition, world energy demand would need to be flat over the next twenty years (a substantially more efficient outlook than our base case demand growth of around 1%pa and the 30yr historical average rate of around 1.9%pa).

As portfolio managers, we are continually looking to get exposure in the Guinness Sustainable Energy Fund to areas where growth is attractive and where investee companies combine growth with barriers to entry. We highlight the following business areas that are supported and enhanced by the outcomes of COP26:

Within the **displacement** sector, we find that the importance of efficiency technologies continues to be underestimated. For example, we see interesting opportunities for:

- Heat pumps, where almost 180m heat pumps were used for heating in 2020, having grown at nearly 10% per year over the past 5 years. A 1.5° scenario would need the installed heat pump stock to be 600m by 2030, implying a growth rate of 13%pa.
- Building efficiency, where annual building energy efficiency renovation rates need to jump from less than 1%pa currently to 2.5%pa by 2030 globally, helping to keep household appliance and plug load electricity consumption by appliances flat for the next decade.

Within the **electrification** sector, we find that the electrification of light passenger vehicles is progressing well but that other forms of transportation (heavy duty trucking, marine and aviation) are lagging significantly:

- EV passenger sales in 2021 are estimated to be around 6% of global auto sales. In a 1.5° warming scenario, the IEA believe that there will need to be around 300m EVs on the road in 2030, and for global auto sales to be 60% EV by that date.
- Biofuel demand would need to rise from the current ten-year average growth rate of 5%pa to 14%pa over the next decade. Biofuels are particularly important for trucking, shipping, and aviation with few other low-carbon technology options. Biofuels could help to decarbonize aviation where there are little other options currently.

Within the **generation** sector, we find that renewable power deployment still needs to expand significantly to meet a 1.5°, or net zero emissions by 2050, scenario. According to the IEA, annual generation must increase at an average rate



Manager's Comments (cont.)

of nearly 12% during 2021-2030, almost twice the rate achieved between 2011 and 2020.

Within the [installation and equipment](#) sector, opportunities exist for the provision of equipment for all the forms of renewable power generation required to achieve those targets, as well as:

- Network and grid upgrading where investment in grid activities, according to the IEA for a 1.5° scenario, triples by 2030, with particular focus on the creation of smart grids and digital investments (representing around 40% of total grid investments in this decade).
- Development of a hydrogen economy where, according to the IEA Net Zero Emission 2050 outlook, 2030 green hydrogen from electrolysis needs to expand to 80 metric tons (MT) (from 0.5MT in 2020) while blue hydrogen needs to expand from 0.7MT to 56MT in 2030.

In conclusion, current policies offer significant investment opportunities in the energy transition but align with a level of climate warming that does not come close to 1.5°. COP26 has accelerated the transition but there is still a long way to go. The Guinness Sustainable Energy fund is positioned in companies that we expect to benefit from the transition that we expect to accelerate further.

Disclosure

MSCI World Index captures large and mid cap representation across 23 Developed Markets countries. With 1,583 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.

Investing involves risk, including possible loss of principal.

The Fund's focus on the energy sector exposes it to greater market risk than if its assets were diversified among various sectors. Sustainable energy businesses are subject to various industry risks such as rapid and evolving changes in technology, demand for energy and economic factors as well as governmental policies and regulations. The Fund may invest in multiple countries including emerging markets and international companies which involves different and additional political, social, legal and regulatory risks. The global interconnectivity of industries and companies can be negatively impacted by economic uncertainties, environmental conditions and global pandemics or crises. These events can contribute to volatility, valuation and liquidity issues which could cause the value of the Fund to decline.

Consider the investment objectives, risks, charges and expenses of the Fund carefully before investing. For a prospectus or summary prospectus with this and other information, please call (866) 307-5990 or visit our website at www.SmartETFs.com. Read the prospectus or summary prospectus carefully before investing.

Shares of the Fund are distributed by Foreside Fund Services, LLC.