

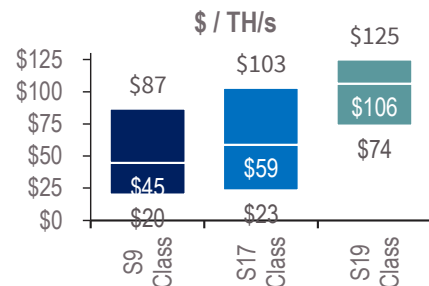


# Comparative ASIC Profitability and Economics: ~200-Day Payback for S9/S17-Class Rigs vs. 320 Days for S19s

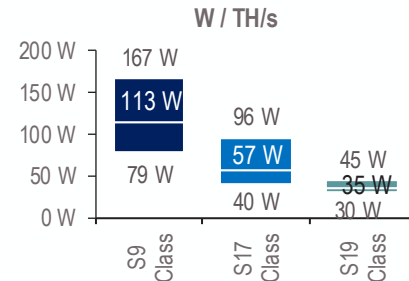
Bitcoin ASIC mining rigs remain in short supply, even as BTC price has far outstripped the growth in network Hashrate. The China mining ban further suppressed Hashrate, which has not fully recovered yet from previous levels.

Rig prices have remained surprisingly high since late 1Q2021. We expected the China ban to cause order cancellations or resales of rigs by Chinese miners who no longer had a site at which to deploy them. Our thesis of not having enough power infrastructure-ready sites to receive rigs outside of China appears to be playing out, based on overall network Hashrate (see our 9/16 Hashrate estimate [here](#)). However, that has not translated into a decline in rig prices, possibly owing to pushouts of wafer starts at foundries TSMC and Samsung.

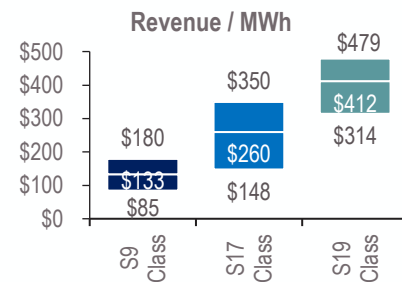
S19-class rigs range in price from \$74-125 / TH/s in the spot market, while older S9 and S17-class machines average \$45 and \$59 / TH/s ([slide 2](#)), respectively. The curve is backwarddated, with prices for future deliveries lower than spot prices by \$8-12.



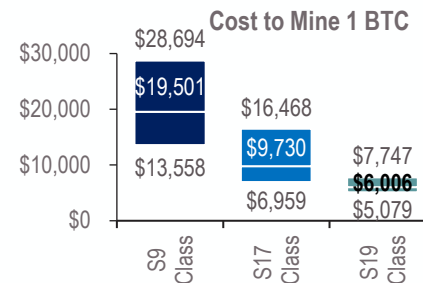
Older-generation rigs are far less power efficient, with an S9-class average of 113W / TH/s, compared with 57W for S17-class and 35W for S19-class rigs (see [slide 3](#)).



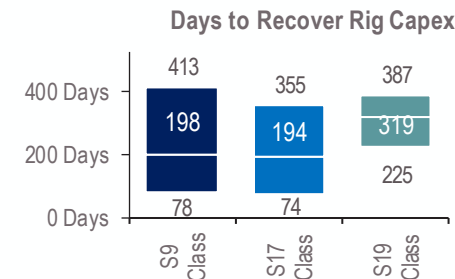
Revenue per MWh for S19-class rigs currently exceeds \$400, while even S9-class rigs make over \$130/MWh, on average. With most of the network mining at \$20-50/MWh power cost, even S9-class rigs are significantly profitable right now ([slide 4](#)).



It costs about \$19,500 to mine 1 Bitcoin using S9-class rigs, assuming a \$40/MWh power price and \$10/MWh labor cost. For S17-class rigs, the production cost is \$9,700 per Bitcoin, and \$6,000 with S19-class rigs.



Payback periods for both S9-class and S17-class rigs are currently just under 200 days. S19-class rigs have a 319-day payback period, on average ([slide 5](#)). These payback periods could extend significantly if difficulty starts catching up with Bitcoin price.



### Takeaways

- The price of ASICs remains high, even for less efficient older-generation S9 and S17-class rigs
- Despite this, payback periods mining bitcoin with older-generation rigs are significantly more attractive than with new-generation rigs
- Miners should hold on to, or procure (if possible) older-generation rigs, as they present a faster return on investment

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BTC Price \$61,827  
(10/29 at 11am EDT)

Obs Hashrate 162EH/s

### Key Takeaways

- The price of ASICs remains high, even for less efficient older-generation S9 and S17-class rigs
- Despite this, payback periods mining bitcoin with older-generation rigs are significantly more attractive than with new-generation rigs
- Miners should hold on to, or procure (if possible) older generation rigs, as they present a faster return on investment
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# Latest-Gen ASICs: More Efficient but More Expensive

- S19-class rigs have seen rising prices over the past year owing to the run-up in BTC price and shortage of chips
- Prices stayed resilient even as China banned BTC mining, potentially leaving several GW worth of future orders with no delivery locations
- The enhanced profitability resulting from price increases far outpacing difficulty has made older-generation machines profitable and raised their prices in the secondary market
- **The average price of S9-class rigs of \$45 / TH/s exceeds the pricing of S19-class rigs a year ago; S19-class rigs now average \$106 / TH/s**

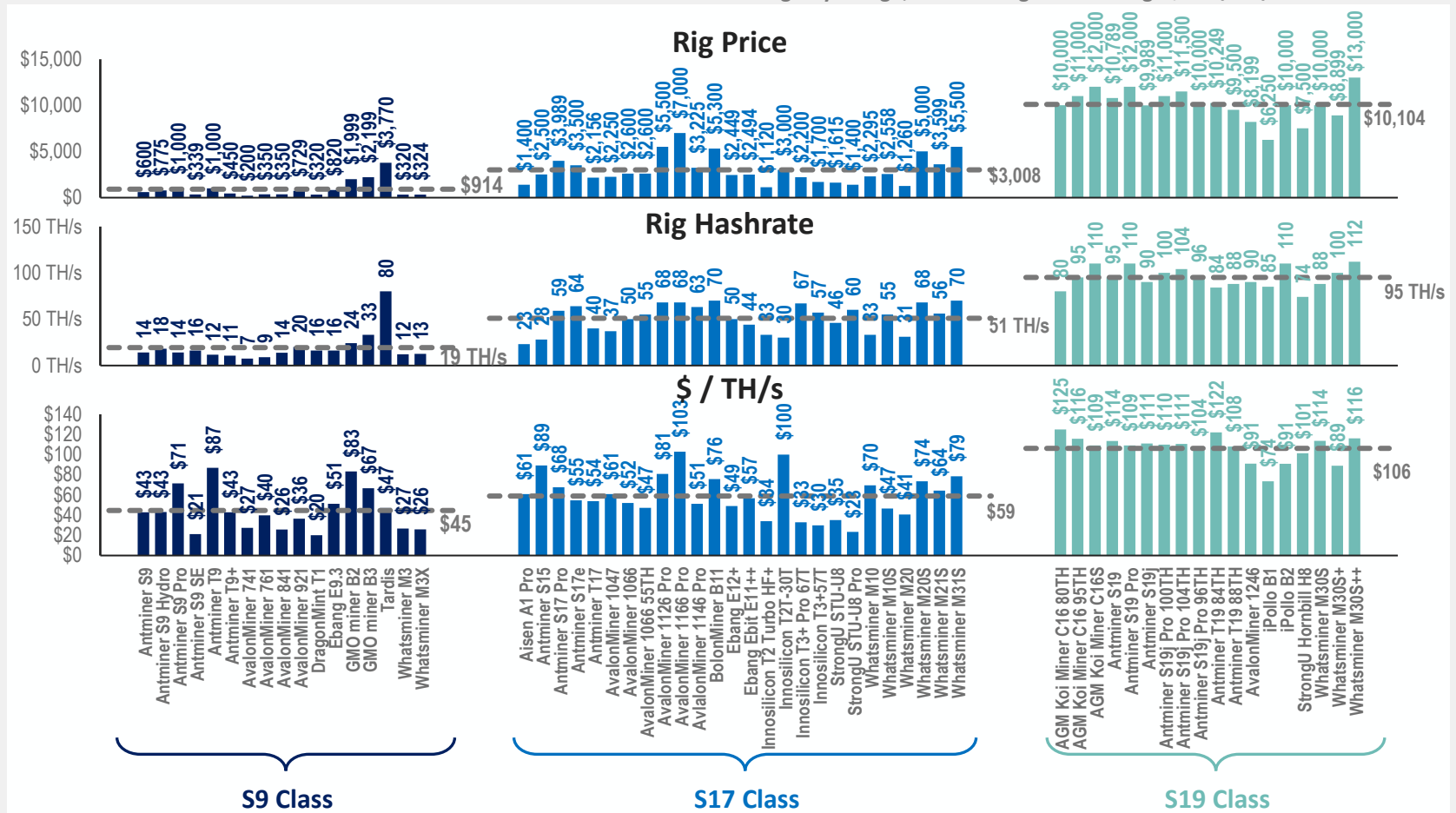


Figure: Device price, Hashrate, and \$ per TH, organized by class. Grey lines denote average among corresponding rig class.

Source: BitOoda estimates, CoinMetrics, Asicminervalue



# S19-Class Rigs Have Low Power Consumption

- S9-class rigs have an average power consumption of 113W per TH/s
- The S17-class rigs show an average of 57W per TH/s, although the best device efficiency overlaps slightly with less-efficient S19-class devices
- Note that the latest-generation rigs all consume about the same power per unit, reflecting power supply and power/amperage constraints for components including receptacles, power cords, etc.

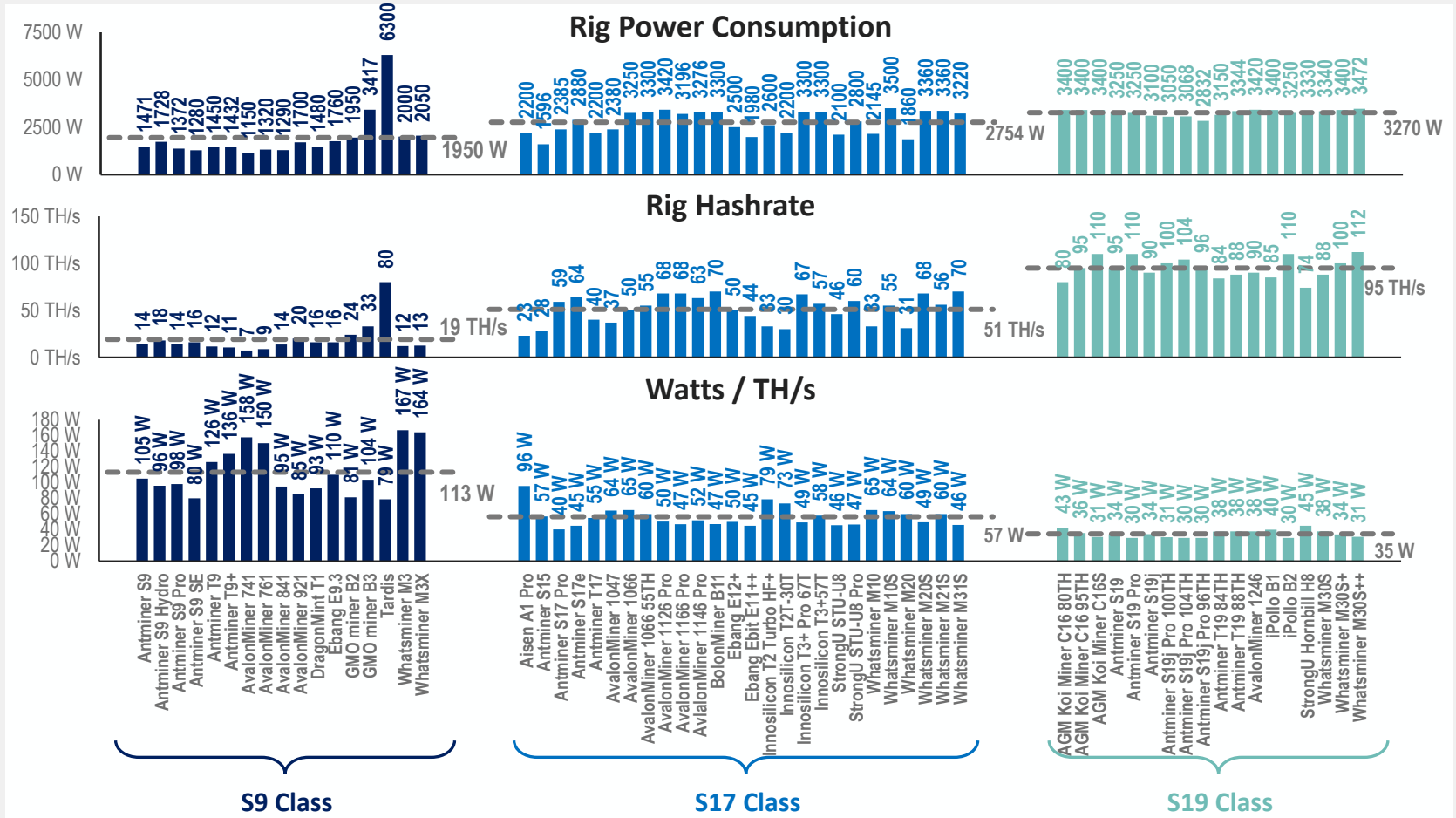


Figure: Device power consumption, Hashrate, and watts per TH, organized by class. Grey lines denote average among corresponding rig class.

Source: BitOoda estimates, CoinMetrics, Asicminervalue



# S19-Class Rigs Generate 3x Revenue / MWh vs. S9-Class

- On average, S9-class rigs deliver 8PH/s per MW, compared with 16 PH/s for S17 and 26 PH/s for S19-class rigs
- This results in revenue of \$133 / MWh for S9-class rigs, well above wholesale power prices for miners, assuming the median power cost for a Bitcoin miner is about \$40 /MWh
- S17-class and S19-class rigs make \$260 and \$412 per MWh under current price and difficulty conditions

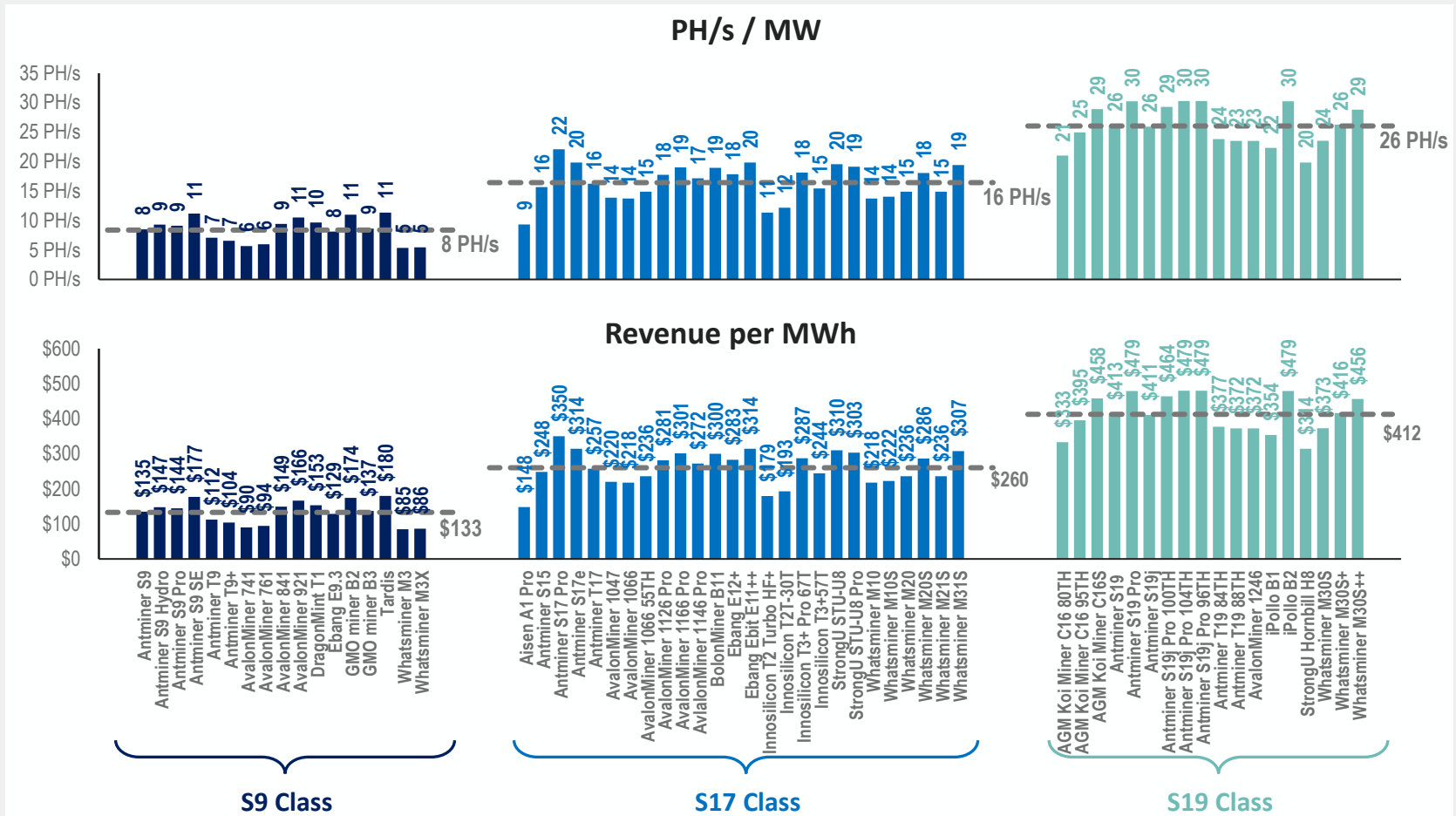


Figure: Device petahash produced per megawatt and revenue per megawatt hour, organized by class. Grey lines denote average among corresponding rig class.

Source: BitOoda estimates, CoinMetrics, Asicminervalue



# Older-Gen Rigs Exhibit Superior Payback Despite Higher Cost / BTC Mined

- It costs ~\$19,500 to mine 1 BTC using S9-class rigs, assuming a \$40/MWh power price and \$10/MWh labor cost, at current BTC price and difficulty
- With the same assumptions, it costs \$9,730 to produce a Bitcoin using S17-class equipment and \$6,000 using S19-class equipment
- Based on these assumptions, the average rig cost payback period for older-generation S9 and S17-class rigs are consistent at just under 200 days
- S19-class rigs, however, have a payback period of 319 days
- Payback periods could extend if difficulty starts catching up with BTC price

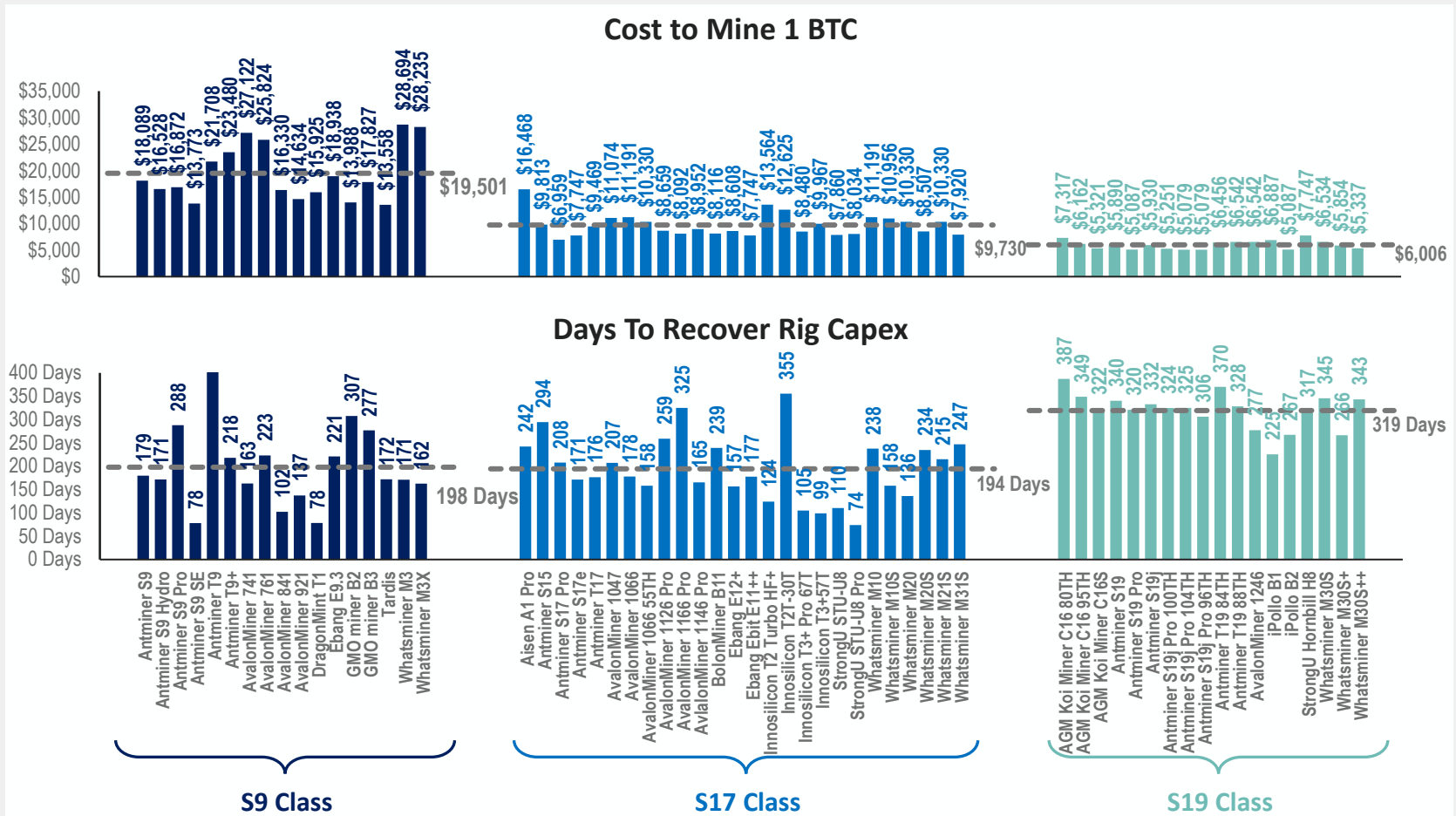


Figure: Device cost to mine 1 bitcoin, and days to recover rig capex dependent on current network conditions, BTC spot, and using a power price of \$40/MWh. Grey lines denote average among corresponding rig class.

Source: BitOoda estimates, CoinMetrics, Asicminervalue



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