

Table of Contents

Call Participants	3
Presentation	4
Question and Answer	9

Call Participants

EXECUTIVES

Alan H. Shaw
President, CEO & Director

Christian F. Wetherbee
Citigroup Inc., Research Division

Claude E. Elkins
Executive VP & Chief Marketing Officer

David Scott Vernon
*Sanford C. Bernstein & Co., LLC.,
Research Division*

Luke Nichols
Senior Director of Investor Relations

Jason H. Seidl
TD Cowen, Research Division

Mark R. George
Executive VP & CFO

Jeffrey Asher Kauffman
Vertical Research Partners, LLC

Paul B. Duncan
Executive VP & COO

Jonathan B. Chappell
*Evercore ISI Institutional Equities,
Research Division*

ANALYSTS

Allison Ann Marie Poliniak-Cusic
*Wells Fargo Securities, LLC, Research
Division*

Jordan Robert Alliger
*Goldman Sachs Group, Inc., Research
Division*

Amit Singh Mehrotra
Deutsche Bank AG, Research Division

Justin Trennon Long
Stephens Inc., Research Division

Bascome Majors
*Susquehanna Financial Group, LLLP,
Research Division*

Kenneth Scott Hoexter
BofA Securities, Research Division

Benjamin Joel Nolan
*Stifel, Nicolaus & Company,
Incorporated, Research Division*

Ravi Shanker
Morgan Stanley, Research Division

Brandon Robert Oglenski
Barclays Bank PLC, Research Division

Scott H. Group
Wolfe Research, LLC

Brian Patrick Ossenbeck
*JPMorgan Chase & Co, Research
Division*

Thomas Richard Wadewitz
*UBS Investment Bank, Research
Division*

Presentation

Operator

Greetings, and welcome to the Norfolk Southern Corporation Second Quarter 2023 Earnings Call. [Operator Instructions] As a reminder, this conference is being recorded. It's now my pleasure to introduce Luke Nichols, Senior Director of Investor Relations. Thank you, sir. You may begin.

Luke Nichols

Senior Director of Investor Relations

Thank you, and good morning, everyone. Please note that during today's call, we will make certain forward-looking statements within the meaning of the safe harbor provision of the Private Securities Litigation Reform Act of 1995. These statements relate to future events or future performance of Norfolk Southern Corporation, which are subject to risks and uncertainties and may differ materially from actual results.

Please refer to our annual and quarterly reports filed with the SEC for a full discussion of those risks and uncertainties we view as most important. Our presentation slides are available at nscorp.com in the Investors section, along with a reconciliation of any non-GAAP measures used today to the comparable GAAP measures.

Turning to Slide 3. It's now my pleasure to introduce Norfolk Southern's President and Chief Executive Officer, Alan Shaw.

Alan H. Shaw

President, CEO & Director

Good morning, and welcome to our discussion of second quarter earnings. Here with me today are Mark George, our Chief Financial Officer; Paul Duncan, our Chief Operating Officer; and Ed Elkins, our Chief Marketing Officer. I would like to begin by thanking all of my colleagues at Norfolk Southern for their tremendous work this quarter. As you will hear this morning, we are delivering on our commitment to recover service quickly. We are delivering on our commitment to make a safe railroad even safer.

We are delivering on our commitment to address quality of life issues for our hardworking craft railroaders, and we continue to deliver on our commitment to make things right for the people of East Palestine and the surrounding communities. We have a vision for a better way forward for Norfolk Southern. Last December, we outlined a groundbreaking strategy that balances service, productivity and growth. It is designed to create long-term value for our customers, employees, shareholders and the communities we serve.

Our commitment to that strategy was tested on February 3 with the derailment in East Palestine. Adversity reveals character and tests resolve. I'm proud of the way our team rose to the challenge. Our response in East Palestine has been fully aligned with our better way forward, making decisions in the best long-term interest of the community and surrounding areas has achieved significant progress. Our financial results were challenged this quarter as we noted in May that they would be. They reflect the decisive actions we have taken to advance our strategy and keep our promises in East Palestine. With every step forward, we are doing exactly what we said we would do when we announced our strategy last December.

We are investing in the long-term success of our company. With our strategy as our road map, we made significant progress in the second quarter, building the foundation for long-term value creation. This morning, I'll share a few notable examples of our progress. I'll start with service. In the first quarter, we expressed confidence that our service challenges were a temporary disruption due to deliberate management actions in response to the derailment and that our recovery plan which show results quickly.

We delivered. As Paul will describe shortly, service is now at levels comparable to our best performance in 2019. When we announced our strategy last year, I indicated that we will continue to make disciplined investments in our business through economic cycles. As Mark will describe, we are doing exactly what we said we would do. We continue to expand the ranks of our frontline craft railroaders, and we are investing in locomotives, intermodal infrastructure, new sidings, technology and other assets that will drive service, productivity and growth.

We are looking beyond this cycle to be ready to serve our customers and support their growth during the recovery and into the future. Another important way we moved our strategy forward in the second quarter was through our continuing progress engaging more effectively with our frontline railroaders. This is one of my top priorities as CEO, and it is a reason I spent so much time in the field. I've learned from every conversation with my craft colleagues. After the conclusion of our national labor negotiations last year, I promised to work with union leadership at the local level to address quality of life issues.

We kept that commitment, and I'm especially proud Norfolk Southern was the first Class 1 railroad to provide paid sick leave for all of our craft employees. We are building on that momentum. It was an extraordinary moment to co-author an open letter with the leaders of 12 railroad unions committing to collaborate on safety. And then a few days later, to share a stage with many of those same leaders in an all-employee town hall meeting to talk about safety and our strategy.

Our people are excited to be part of a vision that focuses on growth. Our actions this quarter to advance our strategy extend well beyond operations. They run throughout our company. In marketing, we reorganized the team to align with our strategy, positioning us to maintain the deep customer relationships that characterize Norfolk Southern while simultaneously pursuing growth in high-value markets that make sense for our network. As part of that change, we made the innovative move this quarter to create the industry's first Vice President of first mile/last mile, building an entrepreneurial spirit and growth mindset into our organizational structure, continuous productivity improvement through cost management and smart revenue growth is a core element of our strategy.

In the second quarter, we created a new performance excellence team within operations, charged with building additional rigor and discipline into our processes. This work is foundational to our strategy. Standardizing our processes supports a high degree of planned compliance, which in turn gives us greater flexibility to innovate and test, targeted improvements that enhance consistent and reliable service and provide productivity opportunities, thus unlocking growth potential.

Additionally, we continue to make progress this quarter, strengthening our safety culture, implementing best practices and accelerating technology improvements. We look beyond the rail industry for a partner that would challenge and inspire us. We chose Atkins Nuclear Solutions, which brings experience from the Nuclear Navy, the gold standard of operational excellence and industrial safety. Then we reached out to the leaders of the national unions representing our frontline craft railroaders, and ask them to work with us to enhance rail safety.

Our work is producing results. As Paul will describe in more detail, our safety metrics demonstrate significant improvement. As a result of these initiatives and more, Norfolk Southern today is a railroad poised for long-term value creation. We are implementing our innovative strategic plan and [co-aligned] to serve our customers and capture growth when demand inevitably returns.

And now I'll turn it over to Mark for a detailed look at our second quarter results.

Mark R. George
Executive VP & CFO

Thank you, Alan, and good morning to everyone. Before we get into the operating results for the quarter, Slide 6 illustrates the financial impact from the Eastern Ohio derailment. There was another \$416 million of costs recorded in Q2, primarily driven by environmental cleanup activities.

Our estimates reflect the significant progress we've made remediating the site and the continued efforts we expect to undertake related to further restoration efforts. While our estimates reflect our expectation that activity at the site will meaningfully moderate in the fourth quarter, any changes in the nature, extent and duration of the remaining cleanup activities and government oversight activities may impact our current estimate. Additionally, developments with respect to the healthcare fund, which we are creating for affected residents as well as the potential fines, penalties or settlements and ongoing legal expenses will all likely impact our costs in future quarters.

Of the \$803 million recorded so far this year, only \$287 million of the cash has been paid through June 30. We currently expect about half of our accrued balance to be paid over the remainder of the year with the rest in 2024 or later. Our 2023 results do not reflect potential recoveries from third parties or under our insurance coverage. Importantly, you will see in the quarter that we have started the process of pursuing recovery from third parties, a process we will continue to explore where appropriate in connection with our other lawsuits.

As for our insurance coverage, we expect to begin filing insurance claims here in the third quarter. This will be the first of many claims that will be made over the coming quarters. To remind everyone, we can only make claims upon payments being made not based on accruals. As you can imagine, insurance reimbursements and third-party recoveries will take time to materialize.

Turning to Slide 7. Here, we illustrate the accounting impacts of the incident and response on our key metrics for Q2. At the bottom, you see the adjusted results excluding those impacts. Revenues were down 8% to last year, while adjusted operating expense was flattish. It's important to understand that the incident meaningfully harmed revenues in the quarter because of the resulting service disruption, but that impact is not adjusted from our GAAP figures and mitigating those service impacts cost us money to fix and those costs are also not accounted for in the \$416 million operating expense adjustment.

Consequently, the adjusted operating ratio was 66.7%. Had we been able to move a couple of hundred million more of revenue with our Q2 cost structure, our margins would have been much stronger. On an adjusted basis, operating income was down 22%, net income was down 18%, and EPS was down 14%.

Moving to Slide 8. Adjusted operating expenses for the quarter were up slightly on a year-over-year basis. Compensation and benefits were up \$79 million or 13% in the quarter due to wage inflation and ongoing hiring to primarily shore up the remaining challenged locations on our network and in support of our strategic plan to build long-term network resiliency.

Materials and other expenses in the quarter were up \$33 million or 19% driven primarily by a continuation of the locomotive related work we discussed during the first quarter call, bringing part of the stored fleet back into service to successfully accelerate the network, which you will hear more about from Paul.

Additionally, in other, the quarter was impacted by lower gains on the sale of property. Purchased services and rents were up \$25 million or 5% this quarter as the challenge network created more headwinds to the category in addition to our continued investments in technology. Depreciation was up \$17 million in the quarter, in line with our guidance.

Mitigating these increases were fuel expenses which were down \$145 million or 36% in the quarter.

Turning to Slide 9. Let's look at the adjusted P&L results below the line. Partially mitigating the \$279 million reduction in adjusted operating income was a \$71 million increase in other income, driven by favorable investment returns and compares from company-owned life insurance. Net income and EPS were down 18% and 14%, respectively, in the quarter.

Moving to free cash flow and shareholder returns on Slide 10. Through the first 6 months, free cash flow was lower by \$276 million due to combined pressure from the derailment-related expenditures as well as investments in roadway and equipment. Shareholder distributions during the first half were \$918 million, thanks to our solid dividend and share repurchase activity. I'll now turn it over to Paul for a discussion on our operations.

Paul B. Duncan
Executive VP & COO

Thank you, Mark, and good morning, everyone. Let's jump right into our safety update on Slide 12. Everything starts with safety. We continue to make progress this year enhancing safety. Our injury frequency ratio is trending down 12% year-to-date versus last year. Our accident rates for the first half of the year is also down from prior years and our mainline train accident rate is trending improved 40% year-to-date versus last year.

I want to take a moment to thank our leaders and our craft colleagues for collectively enhancing safety and driving these outcomes for our team, the communities we serve and our customers. We'll transition to our progress in safely delivering a reliable and resilient service product on Slide 13. You will recall during our last earnings call that we expected service to improve in summer and we have delivered on that promise. We've successfully restored our double-track mainline through East Palestine in a safe and environmentally appropriate way and we wasted no time resetting network performance levels our customers expect in this quarter between the Midwest and the Northeast.

We have significantly improved train velocity, dwell and service across our network to 2-year best resulting from these improvements. With service improved, our focus now is driving further reliability, productivity and resiliency in our network aligned with our strategic vision outlined in December.

Touching on Slide 14. Now, what we told you would be an important measure of our service recovery reduction in cars online. Following the first quarter service interruptions, we had an inventory buildup. We set in place a plan to work down to build up as quickly as possible while also restoring our mainline and overall network conditions. We successfully executed on that plan and railcars are now cycling throughout our network faster than they have since before 2022, achieving greater railcar fleet productivity.

Turning to Slide 15 for an update on our hiring progress. Our efforts to rightsize our [T&E] base have continued the first half of this year. We are now at a point at which the training pipeline has crested and will begin to taper down over the back half of the year. We are committed to maintaining an appropriately-sized workforce to drive reliability and long-term resilience as part of our strategy.

Our productivity metrics are shown on Slide 16. Our short-term service challenges described earlier contributed to productivity impacts as we work to restore service and velocity. Mark mentioned earlier that we return to serve as a portion of our locomotive fleet to expedite our service recovery. With service and locomotive velocity much improved as we enter summer, we have now rightsized our road fleet and are now achieving velocity near 200 miles per day with our locomotives.

As part of our strategy to become not only reliable, but more resilient we have allocated a portion of our road locomotive fleet to surge capacity to be hot and ready to run at key locations of our network when needed. We continue to have a solid outlook for our locomotive fleet. Our DC to AC program is ongoing, which will provide us with a capacity dividend not only in terms of AC traction but also improvements in fuel efficiency.

Transitioning to the workforce. T&E productivity was challenged due to the effort we put in place to accelerate the network, coupled with the contraction in volumes. Moving forward, we expect to improve T&E productivity through a variety of initiatives improving velocity, absorbing volume on existing trains and normalizing our CT pipeline.

Lastly, on fuel, we took a step back for the first time in seven quarters. This was largely due to lower velocity and fewer GTMs on the network as we are restoring service. We are very confident that our initiatives that have been paying regular dividends will continue driving us towards further fuel efficiency as we continue to see the benefits of an improving network.

Moving forward on Slide 17. Our focus will be on safely and productively delivering reliable and resilient service. Every conversation will start with safety as we continue to enhance it through the initiatives that we discussed. With service improved, our goal now is to continue to build further reliability and resiliency in the network but to do so productively. Velocity and service improvements will provide us further opportunities to leverage and spin our assets while pushing to drive further process standardization into our scheduled network to drive productivity.

This is the primary focus of our new performance excellence team, which was created this year. We will also continue to leverage the capital investments we have made to increase productivity, including recent siding projects between Chicago and Cincinnati that will allow us to increase train length and capacity in this quarter. Thank you, and I will now hand it off to Ed Elkins.

Claude E. Elkins
Executive VP & Chief Marketing Officer

Thanks, Paul, and good morning to everybody on the call. Beginning on Slide 19, I'll review our commercial results for the quarter. Now as we expected, the second quarter came with challenges related to ongoing soft freight demand, lower commodity prices and still recovering service levels. In total, we generated just under \$3 billion in revenue for the quarter, down 8% from the second quarter of last year and that's driven by a 6% drop in volume and lower revenue from fuel and accessorials.

ARPU was also down year-over-year. However, revenue per unit less fuel improved 1% reflecting gains in price and favorable mix, and that's driven by tempered demand for intermodal and utility coal. I'd like to note here that underneath this favorable overall mix narrative, there was significant negative mix within markets that tempered overall revenue per unit performance, which I'll note below. Now merchandise results were varied as favorable conditions in the markets for automotive and agriculture products were offset by headwinds in chemicals markets. And that's a good example of the challenging RPU mix within markets that I just mentioned.

Automotive volumes were driven by robust finished vehicle production and agriculture shipments were strong due to new lane offerings and a weak local crop in the Southeast. Offsetting this growth was weakness in several of our chemical commodities as well as challenges to meet customer demand in key markets such as metals, aggregates and finished vehicles.

Taken together, total merchandise volume and revenue for the second quarter came in 1% below prior year levels. Revenue per unit was flat year-over-year, but RPU less fuel grew 2%, which makes 32 out of the last 33 quarters that we've achieved growth in this metric. And I think that is a clear signal that our diverse portfolio and strong pricing discipline are delivering results.

Turning to Intermodal. Continued market headwinds were felt the strongest in our domestic lines of business where volumes declined 14% year-over-year as weak freight demand, high inventories and excess truck capacity weighed on performance. Conversely, in a continuation of the first quarter trend, international volumes increased 1% year-over-year and 5.8% sequentially over last quarter.

As we guided to before, our customers have continued to shift highway freight back into IPI services and storage charges have declined as supply chain fluidity and container dwell have returned to pre-pandemic normalcy. As you would expect with this performance, Intermodal is another segment where ARPU mix with end markets was challenging for us. Both RPU and RPU less fuel were down significantly due to lower revenue from fuel surcharge and storage charges.

Lastly, coal volume was flat year-over-year, but coal revenue fell 4% as RPU declined. Utility volumes were down 17% year-over-year due to historically low natural gas prices and elevated stockpiles. These declines were offset by gains in export shipments as a result of increased production and robust overseas demand. Although export volumes increased, the mix between export steam and export metallurgical coal shifted unfavorably and comparatively lower seaborne coal prices yielded lower revenue per unit.

Again, a key segment where ARPU mix within markets was a headwind. With that, let's turn to Slide 20 and review our outlook for the remainder of 2023. Overall, we're confident that our service product positions us to realize growth when market conditions improve. And as the year progresses, we are focused on pursuing the opportunities in markets that have the highest potential for growth for Norfolk Southern. We expect to increase our share in these markets as an improving service product and a sharply focused organization allows us to realize more of the ongoing demand for our services.

Beginning with merchandise markets, conditions vary by individual market, and we see strong levels of nonresidential construction as reshoring and infrastructure projects increase which will drive strength in metals and construction volume. Pent-up demand for U.S. light vehicles will continue to support metals and automotive volumes. However, we expect continued weakness in our chemicals markets in the second half.

Turning to Intermodal. We expect international volumes to continue its growth trend with an expected rebound in import volumes and the continued share growth of IPI. Storage charges will continue to be a revenue and RPU headwind compared to last year. On the domestic side, overall growth will be dependent on the U.S. consumer, retail inventory levels and the truck market.

We worked really hard with our best-in-class channel partners to sustain our service levels throughout the quarter during the crucial climax of bid season, and we're hearing from our key partners that our strategy is helping them increase their share of bid wins. We look forward to leveraging our capacity to realize this growth as market conditions improve.

And finally, within our coal markets, we expect overall volume growth as continued strength in export markets more than offset weakness in utility coal. Coal production levels at NS-served mines will drive growth in export shipments, although we do expect lower seaborne coal prices to negatively impact RPU. The utility outlook is largely dependent on the weather, on existing stockpiles and natural gas prices. The net result is we expect total coal RPU to sequentially decline by a low double-digit percentage.

Despite uncertainty across the economy, our focus on service, productivity and growth remains at the core of our strategy, and we're confident in our ability to grow our franchise and deliver value for our customers. On that note, I'd like to draw your attention to Slide 21, which highlights the strength of Norfolk Southern's network and our ability to drive growth both now and in the future.

The ecosystem for electric vehicles has been steadily developing in recent years as demonstrated by last quarter's announcement of the new Scout Motors plant on Norfolk Southern. We are focused on all facets of this emerging EV supply chain, including the EV battery and battery components.

Over the last 18 months, more than \$70 billion in new investment has been announced for building out EV battery manufacturing plants across North America. Our commercial team has worked to help locate nearly 1/3 of that investment on our network, including most recently in the second quarter, a new \$3 billion General Motors and Samsung battery manufacturing plant in Indiana, on a Norfolk Southern main line. Norfolk Southern's network is well positioned for future industrial development.

We reached 60% of the U.S. population and cover 50% of our manufacturing base. We look forward to amplifying that strength through continued industrial development wins. Year-to-date, our industrial development team has reported \$2.6 billion in industry investment that's been completed along Norfolk Southern lines, bringing 3,200 new jobs to the local communities that we serve. We continue to invest in site readiness for our highest potential industrial sites, and we're confident our diverse portfolio of shovel-ready sites combined with the strength of our network, we'll continue to land new opportunities across our network.

With that, I'll turn it back over to Alan to bring us home.

Alan H. Shaw
President, CEO & Director

Thanks, Ed. Let's turn to Slide 22. As we have reached midpoint of 2023, I want to provide you with an update to our outlook. Although we entered the year expecting to achieve revenues comparable to 2022, the first half revenue shortfalls require us to modify our full year outlook. We now anticipate revenue to be down at least 3% in 2023 implying some modest volume improvements in the back half. We're also expecting modestly higher capital expenditures for the year as we accelerate investments in safety, service, productivity and growth.

Finally, I want to close our prepared remarks by reconfirming the commitment of the entire Norfolk Southern team to delivering long-term shareholder value through top-tier revenue and earnings growth at industry competitive margins with balanced capital deployment. I'm confident that our strategy will help us achieve our full potential, and I'm encouraged by our progress and investments. We will now open the call to questions. Operator?

Question and Answer

Operator

[Operator Instructions] Our first question comes from the line of Brandon Oglenski with Barclays.

Brandon Robert Oglenski

Barclays Bank PLC, Research Division

Alan, I guess, can you give us an update on lessons learned here as you've reworked your train makeup, I think, through the second quarter? And how has that impacted your operational planning going forward? And does that create incremental capacity for you guys if markets recover, which I think Mark was alluding to earlier.

Alan H. Shaw

President, CEO & Director

Brandon, we remade our train makeup and starting in March. And we guided to the fact that we would expect service to improve as we moved out of the second quarter and into the third quarter coupled with the fact that we're going to get the second track back in East Palestine that's absolutely what we delivered. Our service is on the trajectory that we had guided to. And what we're seeing as a result over the last couple of weeks is real strength in our volume sequentially and also relative to the rest of the industry.

With respect to our updated operating plan and train makeup rules, it gives us an opportunity to create more capacity as we've increased the utilization of distributed power which helps our cost structure, helps our service product and helps our capacity for growth.

Operator

Our next question comes from the line of Ken Hoexter with Bank of America.

Kenneth Scott Hoexter

BofA Securities, Research Division

Just before I get to the question, two clarifications, Mark. You said 1% ARPU gain ex fuel on mix and price. So if mix was positive, are you saying pricing is less than 1%? Or are you saying intra-category mix hides the pricing gain? And then second, you mentioned the real estate gain. Did you mention what it was in the quarter? And then my question is on carload growth. Alan, you mentioned accelerating growth in the second half of the year. Peers are talking about RTMs or industrial production being down slightly. I just want to understand how you're targeting that acceleration in the second half, maybe detail that a little more.

Mark R. George

Executive VP & CFO

Yes, Ken, we were talking about intra-category price there. And then with regard to the real estate gains in the quarter, I think we said it was \$19 million absolute in the quarter itself. Go ahead.

Alan H. Shaw

President, CEO & Director

Yes, Ken. And with respect to volumes moving forward, clearly, our volumes were pressured in the second quarter and in the last 2 months of the first quarter because of the service degradation. That's why it was really important for us to hit the service targets and the service recovery trajectory that we had committed to publicly and with our customers. We've done that. And as a result, our equipment is turning faster and customers are talking to us about incorporating Norfolk Southern into their long-term supply chain solutions. Ed, do you want to give a little bit more color on that?

Claude E. Elkins

Executive VP & Chief Marketing Officer

Yes. When we look at our volumes compared to the other Class 1s over the course of 2023, our volumes outperformed the industry average for 9 of the first 10 weeks of the year and we were feeling good. And then as you know, the network slowed and congestion build up, our performance suffered. But as we started to speed up, our relative performance also has started to recover.

And over the last 11 weeks, I think this is important. We've outperformed the industry average for 9 of those weeks. And the outperformance that we've been experiencing is accelerating placing us in the top 2 of the Class I railroads for 4 of the 5 last weeks. And I will tell you, I spoke about it in the prepared remarks, there are a few bright spots out there where we're focused on delivering growth for our customers through better service. That includes in the automotive industry where we see clear line of sight on continued demand.

And then you think about infrastructure spending that's going on all around the country, but particularly in our footprint as well as residential construction that's really tied to new home construction because people with low interest rates are just staying in those houses. So folks who need a home are going out and building a new one, we see some clear bright spots there.

And the real key is, we're focused on those markets. We're present in those markets with our sales teams and our operating teams. And as the network continues to speed up, we're going to deliver more value for those customers.

Operator

Our next question comes from the line of Amit Mehrotra with Deutsche Bank.

Amit Singh Mehrotra

Deutsche Bank AG, Research Division

Just wondering what inning we are here in terms of the sequential drawdown in intermodal yields. I assume you've got some new pricing that's being implemented on July 1. You've got more runoff of the storage fees. What's the right way to think about intermodal yields from here? And then Mark, there's a lot of like puts and takes on profit cadence from here. On one side, there's a lot of service issues and inefficiencies related to that in the second quarter, but then you've got the coal yield dropping off, maybe a little bit more yield pressure on fuel that impacts operating income.

I mean do we grow operating income off of the second quarter in the back half? If you can just kind of give us some of the puts and takes there.

Alan H. Shaw

President, CEO & Director

Ed, you want to take the first question?

Claude E. Elkins

Executive VP & Chief Marketing Officer

Yes. Yes. If you want to -- let's talk about RPU first, particularly within intermodal. Core pricing remains positive for Intermodal. And more importantly, I think I highlighted it during the prepared remarks, the mix within Intermodal has been pretty dynamic. And because of our success in those international markets and delivering value through more IPI business, that mix is negative for overall ARPU within intermodal.

Sure. Again, when we think about supply chain congestion, I think it's pretty much gone. I'd say supply chains are really about as fluid now as they were prior to the pandemic. And in fact, there may be a little bit more capacity. We monitor warehouse activity pretty closely and the supply chains index -- or excuse me, the Logistics Managers Index, which we pay attention to noted that warehouse capacity has increased at the fastest rate since the start of the pandemic. It's a challenge, and we've seen those storage charges roll off and essentially turn to Really a pre-pandemic normal.

Alan H. Shaw

President, CEO & Director

You've also seen us take share from truck in the international market.

Claude E. Elkins

Executive VP & Chief Marketing Officer

Yes, that is what I was referring to with increased IPI shipments. The international markets are looking for ways to add value for their customers and the service we're providing in IPI is a clear way for them to do that.

Mark R. George

Executive VP & CFO

Amit, let me go through a little bit of the first half, second half dynamic because there are some changes here for sure. We do expect some modestly higher volumes from the better service product we have here in the back half. So that's definitely going into the tailwind category. We will start to see a partial wind down of the service costs here in the second half as well. And fuel expense is going to be less of a headwind than it was in the first half.

But we got some sizable headwinds here in the back half, principally on the RPU side. The fuel surcharge really starts to diminish here and the lag benefit disappears on us. So this fuel will be a real negative in the back half, certainly to margins. And as Ed mentioned, intermodal storage is basically back at pre-pandemic levels now, which means we're going to continue to have quarter-over-quarter headwinds until we lap this probably in the second quarter of next year.

And then, of course, if the futures hold, we're going to have international seaborne coal pricing headwind as well in the RPU side. So that's pretty much the headwind and tailwind equation. So if the volumes come in, like we think, a little bit of back half tailwind, we should get some OR improvement from here and the more the better because we got a lot of capacity on the railroad right now.

Operator

Our next question comes from the line of Scott Group with Wolfe Research.

Scott H. Group
Wolfe Research, LLC

So Mark, you're saying hopefully, some OR [indiscernible], you're saying, hopefully, some OR improvement from Q2 into the back half of the year.

Mark R. George
Executive VP & CFO

Yes. Volumes, we expect to really provide us a little bit of tailwind here. And I think it's all going to depend on how much volume we're able to bring on to the railroad.

Alan H. Shaw
President, CEO & Director

Look, we were really clear in May that OR would be really pressured in the second quarter because we're going to have 3 months of service disruption and then as we've delivered on our commitment to improve service throughout the quarter and moving into third quarter. That creates more opportunity for volume and it creates a better cost structure for us. We will still have those headwinds that Mark called out, particularly with respect to fuel surcharge and comps on...

Mark R. George
Executive VP & CFO

On coal pricing.

Alan H. Shaw
President, CEO & Director

On coal pricing but the underlying product and our ability to onboard volume at strong incrementals is improving.

Scott H. Group
Wolfe Research, LLC

And so ultimately, I guess, if you've given us a little bit of color on OR and some color on coal RPU. But how should we think about overall RPU when I factor in the fuel headwind, some of the maybe continued storage headwind? Like what's -- how much do you think is overall RPU going to be down in Q3? Just that I think it would be helpful.

Claude E. Elkins
Executive VP & Chief Marketing Officer

This is Ed. When we look at the second half of the year, on the RPU front, reduced storage and fuel surcharge revenues are going to persist. We've talked about that. I talked about that in our prepared remarks. Collectively, those current projections for us for fuel storage and coal pricing is roughly \$650 million.

Mark R. George

Executive VP & CFO

Year-over-year revenue contraction.

Claude E. Elkins

Executive VP & Chief Marketing Officer

That's right.

Mark R. George

Executive VP & CFO

So that's the headwind we're swimming against.

Scott H. Group

Wolfe Research, LLC

\$650 million in what period?

Mark R. George

Executive VP & CFO

Second half versus second half.

Scott H. Group

Wolfe Research, LLC

Okay. That's revenue.

Operator

Our next question comes from the line of Chris Wetherbee with Citigroup.

Christian F. Wetherbee

Citigroup Inc., Research Division

So maybe a little bit on head, I guess I'm curious, how do we think about -- you talked about the pipeline of trainees rolling kind of moderating in the back half of the year? So how do we think about actual employee levels in the back half of the year, maybe 3Q, 4Q? And then, Mark, in the past, you talked a little bit about OpEx and maybe putting the profit aside, I know obviously, there's RPU headwinds on the revenue piece. Is OpEx kind of flattish from where you were in the second quarter? Or is there an ability to actually improve on that given the network kind of reopening and getting some of that productivity back into the model?

Alan H. Shaw

President, CEO & Director

Why don't you address the question on conductor trainees and craft colleagues.

Paul B. Duncan

Executive VP & COO

Yes. Thanks, Alan. So as you saw on the -- hiring chart on the stats, we continue to make progress on staffing. And really, at this point, we plan to reduce the CT pipeline to around 600 or less as we continue to focus on attrition and filling in some of those remaining locations. But at this point, with what we've been able to do from a hiring standpoint, we have further leveraged and gained velocity across the network and facilitate having those folks that are at healthy locations, sent to some of those hotspots. And again, that is a contributor to the velocity improvements and the service improvements that we've seen here over the past several weeks that we expect to continue through the latter half of the year.

Alan H. Shaw

President, CEO & Director

And Paul, your guidance on a pipeline of around 600 is more pointed towards the end of the year.

Paul B. Duncan

Executive VP & COO

Correct.

Mark R. George
Executive VP & CFO

And Chris, with regard to OpEx, I think we've obviously seen a step-up in our cost structure as we've been dealing with a lot of the service issues and trying to start to build some resiliency going forward. I think what you'll see now is immanation of those service-related costs as we go through the back half of the year. However, don't forget, we've got that 4% wage increase that took effect July 1. So those kind of start to wash each other out.

And with regard to some of the other P&L line items, in aggregate, probably flattish sequentially. We see those kind of holdings. So that's why the leverage is there now to take on to take on volume. We believe we've got the capacity to handle a lot of volume without much incremental cost and really gets down to facing these RPU headwinds that are going to provide pretty sizable headwind for us on the margin side, \$650 million as we just touched on.

Christian F. Wetherbee
Citigroup Inc., Research Division

Okay. And average heads are up a little bit in the back half of the year, I think is what I heard.

Mark R. George
Executive VP & CFO

I'm sorry, can you repeat that?

Christian F. Wetherbee
Citigroup Inc., Research Division

Average head count is going to be up a little bit sequentially in the back half of the year.

Mark R. George
Executive VP & CFO

Yes, correct.

Operator

[Operator Instructions] Our next question comes from the line of Jon Chappell with Evercore ISI.

Jonathan B. Chappell
Evercore ISI Institutional Equities, Research Division

Mark, I thought Slide 7 was super helpful. And then also, you noted that there's volume, revenue and cost impacts that you wouldn't kind of strip out as being onetime in nature. Is there any way to quantify those two, let's call them, non-adjusted impacts to the second quarter results? And as we think about a return to normalization, is that kind of a slow grind as the line comes back on and builds the full capacity where you can be kind of on an apples-to-apples basis at the start of the fourth quarter? Or do you think that it's going to take all the way until 2024 to say kind of base revenue and base costs from the entire network.

Mark R. George
Executive VP & CFO

Yes. So the way we look at it, and we've done some analysis here with Ed and his team, we think we left about \$175 million to \$200 million of revenue behind because of the service disruptions and the shutdown of the line there in East Palestine. So that's kind of on the revenue side. And on the cost side, we were dealing with growing a lot of costs and trying to accelerate the network, and we've done that successfully.

So now we're going to probably use the next 6 months to really work those costs off and get back to more productive levels of service. So I think you'll see that those costs will wind down here in the third quarter. And I think by the fourth quarter, most of those costs will be removed from our system. So we talk about probably \$40 million to \$45 million here in the second quarter of kind of poor service related costs, and that will start to unwind here.

Operator

Our next question comes from the line of Brian Ossenbeck with JPMorgan.

Brian Patrick Ossenbeck
JPMorgan Chase & Co, Research Division

Maybe just go back to the average comp per employee. And Mark, you were talking about the 4% increase for the craft employees. Can you just give us a sense of what that looks like on an all-in basis because you've got over time, you've got mix, you got trainees in there. What does it look like in the back half of this year and how does that carry forward into next year?

And then beyond that point, can you just talk more broadly about the cost for paid sick leave, what role changes and how we should think about those, including any potential offsets and when you might see them?

Mark R. George
Executive VP & CFO

Thanks, Brian. So I think I guided earlier in the year to about 35,000 and change each quarter, anticipating that we were going to have this 4% step-up in rates in the third quarter, but that would be neutralized by the wind-down of service-related costs. So that guidance pretty much holds. I would -- if I were you all, I'd be modeling around 35 and change average comp per employee each quarter. Sorry, the second part of that one question was what?

Brian Patrick Ossenbeck
JPMorgan Chase & Co, Research Division

The work rule changes...

Mark R. George
Executive VP & CFO

Yes. Sorry. Clearly, these things aren't free. So there's definitely a little bit of a headwind that we're swimming against with a lot of these work rule changes. I'm not going to put a fine number on it other than to say that, obviously, we're going to have to pay for that with some productivity initiatives in the future. And that's what Paul and his team are looking at now. But clearly, some short-term headwinds from a lot of what you've seen published.

Operator

Our next question comes from the line of Jordan Alliger with Goldman Sachs.

Jordan Robert Alliger
Goldman Sachs Group, Inc., Research Division

Sort of curious maybe from a sensitivity perspective, you've done a really good job getting the network back into shape in the second quarter. And you talked about maybe hopefully improving OR with some volume sequentially versus the second quarter OR. But I'm actually curious, is there -- given the headwinds you've talked about and maybe even looking into next year, is there a level of volume growth that needs to come into the network to show year-over-year OR improvement?

Mark R. George
Executive VP & CFO

Well, I'll jump in and just say that you go back to our financial framework, our goal, the one we launched back in December, kind of -- we're aiming for mid-single-digit revenue growth on average in most years. And that would imply a few points at least of volume and a couple of points of pricing. So we think that, that is the right equation for us where we can then leverage it and drive productivity so that we have [off] income growth that's greater than the revenue growth. So that's pretty much the model. And I would expect in '24 that to play out.

Operator

Our next question comes from the line of Ravi Shanker with Morgan Stanley.

Ravi Shanker
Morgan Stanley, Research Division

Now that you've had a little more time to digest the aftermath of the accident, do you have a better sense of when we might know the final kind of financial impact here? Kind of is that a 3Q event? Is a 2024 event? Is it going to take several years? How does that play out?

Alan H. Shaw
President, CEO & Director

Mark, why don't you address that, please?

Mark R. George
Executive VP & CFO

Sure. I mean, this is going to take a little bit more time. The way to look at this, Ravi, is as we've entered Q2, we've got a lot more visibility now than we did in Q1. And our current estimates assume that the cleanup activity continues into October and then kind of moderates meaningfully during the fourth quarter.

Future periods are going to be impacted by ongoing legal costs and may be impacted by other items as well such as fines and penalties, which are currently unknown. And frankly, we can't estimate. So what I would encourage is that maybe you look at the 10-Q disclosures later today related to the matter, we kind of go into a fair amount of detail of the types of things that could continue to impact us in the future. And we'll continue to monitor this and keep you all apprised as things change.

But right now, the largest part of what we're accruing for has really been the environmental cleanup costs. And the visibility now is we think as we get into October, things really start to wind down, and that's the basis of these estimates. Now I'll take a moment and just say, we've started the process, like I said in my prepared remarks of seeking recovery from third parties, and we are going to start here in the third quarter, making claims against our insurance -- making claims against our insurance policies. So that's going to take some time to play out. And we're probably talking quarters, not months.

Operator

Our next question comes from the line of Justin Long with Stephens Inc.

Justin Trennon Long
Stephens Inc., Research Division

We had another Class 1 rail yesterday come out and announced that they're pausing buyback activity for the second half. So I wanted to get your thoughts around buybacks as we move into the next couple of quarters? And any update on the timing of the Cincinnati Southern acquisition closing and how that deal will be funded?

Mark R. George
Executive VP & CFO

Yes, thanks. We continue doing some share repurchasing in the second quarter similar levels to what we had done in the first. And again, we get back to what our model is and nothing changes. The first thing we do with our returns is reinvest back in the business to drive safety, resiliency, growth productivity. And this year, that is going to be \$2.2 billion of CapEx spend.

After that, we pay a dividend in that 35% to 40% payout ratio range. Sometimes it goes outside of that a little bit, but we'll grow back into it. And then with the remaining excess cash, we've been very mindful of our leverage, we return that cash to shareholders through the repurchase of shares. This year is a little unique in that we have signaled we're going to do that CSR purchase. The timing of that is also becoming clearer. That is likely toward the end of Q1 of next year of closing should the citizens vote affirmatively in Cincinnati to go forward. So we will be mindful of that because part of that purchase will be coming from internally generated cash flow. That doesn't mean we're stopping share repurchase, but it will definitely be at much lower levels than we've seen in the prior couple of years where we were doing \$3 billion a year or more.

Operator

Our next question comes from the line of Jeff Kauffman with Vertical Research Partners.

Jeffrey Asher Kauffman
Vertical Research Partners, LLC

A lot of my questions has been answered, but let me ask this one because you threw it out earlier. You talked a little bit about bringing in first mile/last mile head. Now not the right time, we're focused on rehabbing the network and fixing what needs to be fixed. But

could you talk a little bit about longer term why this makes a difference and why you're one of the few rails that's actually stepped in that direction?

Alan H. Shaw
President, CEO & Director

Ed, why don't you address that?

Claude E. Elkins
Executive VP & Chief Marketing Officer

Sure, I'd be glad to. We know from talking to our customers, and we've done this over a long period of time and spent a lot of time with our customers. First and last mile is a critical component of the customer experience. And we know that there are a few key vectors of value that we're going to be -- that we have to focus on delivering. Service quality is one of those. And first and last mile is a portion of service quality. It's also customer experience, it's also commercial sophistication. In all three of those categories, first and last mile plays a significant and substantial role. And it's not just in the merchandise business. It's also in our TBT or bulk transfer facilities. It's also with our [indiscernible] direct product, it's also with Triple Crown. So we view it as a key component of our future success.

Alan H. Shaw
President, CEO & Director

And it's all part of our long-term strategy to drive service, productivity and growth.

Mark R. George
Executive VP & CFO

We've got to do different things if we want to grow. Yes. So this is a great example.

Alan H. Shaw
President, CEO & Director

Yes. And we're willing to take a lead role in the industry on that.

Mark R. George
Executive VP & CFO

That's right.

Operator

Our next question comes from the line of Tom Wadewitz with UBS.

Thomas Richard Wadewitz
UBS Investment Bank, Research Division

So I wanted to ask you, I think you talked a little bit about maybe what you need on the volume side to -- or revenue side to improve OR. But I guess I'm thinking if you look, I don't know, into '24 or just let's say, beyond the next quarter or two, it does seem like you identified a pretty big revenue headwind in the second half. And I don't know that those revenues would come back in terms of storage or coal RPU and fuel surcharge, obviously, can be up or down.

But I'm just -- and on the cost side, it doesn't seem like you're going to cut headcount. So is it just all about volume? And should we be optimistic about moving out of the mid-60s? Or is there an operating ratio? Or is there a challenge where you're kind of stuck in the mid-60s for a period of time on the operating ratio. It just seems hard to see what's going to move in a big way out of the mid-60s OR other than volume really being a lot better.

Mark R. George
Executive VP & CFO

The single biggest lever we've got right now is to absorb volume growth into our current cost structure. So that is really going to provide a bit of peel out from where we are today. And then I think at the same time, Paul and his team, in particular, are working hard on productivity initiatives because we've dug service out of the hole we were in. Maybe not in the most productive way. We've been growing a lot of costs and resources to accelerate the network.

So now there's a lot of opportunity to take the costs out and start driving productivity again. And that's what Paul and his team are heavily focused on. We're not going to give an OR projection here or the pace at which we're going to improve. But there are a lot of levers. And you touched on most of them. RPU being a big piece. We'll see what happens here with coal pricing in the future. That's been a driver. The same thing with fuel. That's going to be -- it's been very supportive fuel to our OR in the first half, and it's going to be equally negative now here in the back half.

So that dynamic could change going forward. So we're not in a position to project where the OR goes in the next 12 or 18 months. But I will tell you, we are coiled up with the investments we've made to start driving improvements by taking on volume. We are readying employees to take on volume.

Thomas Richard Wadewitz
UBS Investment Bank, Research Division

It just seems like the revenue headwinds are a lot bigger than the \$45 million a quarter cost inefficiencies?

Mark R. George
Executive VP & CFO

Yes. I mean we laid them out. There are some revenue RPU type of headwinds, but we do think that there is volume out there for the taking. And as long as we don't go into an economic downturn, which is we're feeling a little bit better about lately, we think there's some share recapture opportunity that's out there and other areas where we can take the volume on. But yes, we're going to have short-term headwinds.

Alan H. Shaw
President, CEO & Director

And look, as the service product has stabilized, it gives us the opportunity to continue to iterate our plan and drive productivity and efficiencies into the base plan as well. So it's not just the elimination of the service recovery cost. We're going to make the base plan better. And that's exactly what we're doing now, and that's the structure that Paul has built into his organization.

Operator

Our next question comes from the line of Allison Poliniak with Wells Fargo.

Allison Ann Marie Poliniak-Cusic
Wells Fargo Securities, LLC, Research Division

Just going back to that \$2.6 billion that you highlight on industrial development, is there a way to better understand how that converts to a potential volume opportunity for you. And I would say similarly with the EV battery plants per plan, is there a kind of an algorithm to think through in terms of the volume opportunity as they come online?

Claude E. Elkins
Executive VP & Chief Marketing Officer

I appreciate the question. I'm not sure, I think, in terms of algorithms for that stuff. The value of the product that we're delivering varies by the size of the project. And it could be months to manifest volume, it could be years depending on the size of the project. We're encouraged by the EV battery facilities that have located along our lines. But let me be also clear, we're encouraged by EV battery production or facilities that are not on our lines because being the largest producer we serve more auto plants than any other railroad. We're going to benefit from that off-line production as well.

So I don't -- I think when we think through it, it is a multi-year manifestation of volume over time.

Alan H. Shaw
President, CEO & Director

Yes. I think the salient point is the macro trends in the economy play to the strengths of our unique franchise. That's why we have a lot of confidence moving forward.

Operator

Our next question comes from the line of Jason Seidl with TD Cowen.

Jason H. Seidl

Copyright © 2023 S&P Global Market Intelligence, a division of S&P Global Inc. All Rights reserved.

TD Cowen, Research Division

Two quick things here. One, how should we think about sort of other income below the line. You guys did a great job of laying out sort of what you think about revenue, what you think about OR. But there's a big swing year-over-year in other income. So just curious about second half. And Alan, any thoughts on potential regulation and maybe the recent steps by the FRA to do a public comment period on train size and weights.

Mark R. George
Executive VP & CFO

Jason, other income, remember, a big driver of other income is the company owned -- the returns on company-owned life insurance investments. And here in the first half, we had some pretty good compares because last year, in Q1, Q2, we had losses on those company-owned life insurance policies. So now we've swung to returns again, which is historically long term, been the more normal.

And so the \$64 million or so in Q2, which is year-over-year compare on company-owned life insurance will probably not be as big in the back half. So I'd get back to more back half numbers like you've seen historically in that \$20 million to \$30 million a quarter range.

Alan H. Shaw
President, CEO & Director

And Jason, with respect to your question about regulation, I've been fully engaged with our elected officials and our regulators, really advancing and offering full throat and endorsement for a lot of the provisions that are in the various bills that are moving through the house or moving through the Senate. A lot of them make perfect sense to us or just they're common sensical. I don't see anything out there right now that is going to be too onerous on the rail industry cost structure, which includes railroads or our customers.

Operator

Our next question comes from the line of Bascome Majors with Susquehanna International Group.

Bascome Majors
Susquehanna Financial Group, LLLP, Research Division

Mark, you gave us a lot of color on the timing of recoveries versus spend and some of the issues with East Palestine. I think it would be helpful if you could kind of frame what you're feeling for free cash flow this year? And just ballpark, any amount that might be a shift into 2024? Or if that's how we should look at it given that claims and recoveries will be ongoing and could take years?

Mark R. George
Executive VP & CFO

Yes, Bascome. It's really because of the timing with EP and the uncertainties around, I had mentioned that the accrued balance that sits there today, \$287 million of cash has gone out. We've got over \$800 million that we had accrued for. So the remaining \$500-or-so million, half of that is going to come out in the back half of this year, the other half probably next year, some may slip into 2025 even. Beyond that, we have no visibility to the timing on recoveries. It's unlikely that we'll see any recoveries actually here in 2023.

It's a matter of when in 2024, they start to come in. And we'll get back to, again, the insurance process where you can't really ask for insurance coverage on costs you've incurred until you actually incur the expense, meaning the cash goes out. So we're only just now starting to make those claims. So it is going to take several quarters probably before you go through the process and get the free cash flow benefit on the proceeds.

Bascome Majors
Susquehanna Financial Group, LLLP, Research Division

Do you have any thoughts without really tying you to the timing of when those recoveries may or may not happen. What free cash flow could look like for the business this year?

Mark R. George
Executive VP & CFO

I don't want to get into that level of guidance right here.

Operator

Our next question comes from the line of Ben Nolan with Stifel.

Benjamin Joel Nolan

Stifel, Nicolaus & Company, Incorporated, Research Division

Yes. We've heard a little bit about the possibility of seeing some intermodal shifting back to the West Coast from the East Coast given the hopefully, normalization of labor over there. Curious if you guys have seen any initial signs of that at all or if you see that as a potential risk or not?

Claude E. Elkins

Executive VP & Chief Marketing Officer

I would say we haven't seen any real signs of it yet, but let's be clear. We have a network that's built for volume growth from the West as well as from the East, and we can benefit from freight that comes in either case.

Operator

Our final question today comes from the line of David Vernon with Bernstein.

David Scott Vernon

Sanford C. Bernstein & Co., LLC., Research Division

So is there a way to quantify the share loss in 2Q that has happened from the East Palestine derailment? I'm just trying to get a sense for some -- how much volume might have moved away related to the weaker macro? And then, Mark, is there a way to think about as you look forward to all the things that are potentially out there, obviously, we've accrued for a lot of things. We're going to get some recoveries. If we think about the net, the good guys versus the bad guys. Is there a way to think about whether the liability from this thing is going to net grow or maybe stay constant or maybe shrink a little bit when you think about all the puts and takes on a multiyear view?

Claude E. Elkins

Executive VP & Chief Marketing Officer

This is Ed. I'll start. There's no doubt, we went through a tough stretch there with service that for some of our customers to find alternatives to keep their supply chains running. Those alternatives probably included additional inventory, truck substitution as well as other railroads. And I think Mark actually mentioned \$175 million to \$200 million in the quarter that we -- we wish we had back. I think that's a fair number. We work pretty closely on that.

But we also know that our customers recognize the long-term benefit that we deliver. And I told you earlier that I'm already encouraged about the recent trajectory of our volumes. We're able to save our customers money, and they are looking forward for us doing that. We focused on two things during the quarter as we got service back. Number one, get it back as quickly as possible. And number two, make sure we stayed really close to our customers, so they knew that they could unwind those alternatives and come back to us. We think we're seeing that.

Alan H. Shaw

President, CEO & Director

Look, that's a central point to our long-term strategy and consistent service as consequences. And that we're going to make service -- competitive service, excellent service and enduring competitive strength for NS.

Operator

That concludes our question-and-answer session. I'll turn the floor back to Mr. Shaw for any final comment.

Alan H. Shaw

President, CEO & Director

Thank you for joining us this morning, and we look forward to further conversations at start of the third quarter.

Operator

Thank you. This concludes today's conference call. You may disconnect your lines at this time. Thank you for your participation.

Copyright © 2023 by S&P Global Market Intelligence, a division of S&P Global Inc. All rights reserved.

These materials have been prepared solely for information purposes based upon information generally available to the public and from sources believed to be reliable. No content (including index data, ratings, credit-related analyses and data, research, model, software or other application or output therefrom) or any part thereof (Content) may be modified, reverse engineered, reproduced or distributed in any form by any means, or stored in a database or retrieval system, without the prior written permission of S&P Global Market Intelligence or its affiliates (collectively, S&P Global). The Content shall not be used for any unlawful or unauthorized purposes. S&P Global and any third-party providers, (collectively S&P Global Parties) do not guarantee the accuracy, completeness, timeliness or availability of the Content. S&P Global Parties are not responsible for any errors or omissions, regardless of the cause, for the results obtained from the use of the Content. **THE CONTENT IS PROVIDED ON "AS IS" BASIS. S&P GLOBAL PARTIES DISCLAIM ANY AND ALL EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE, FREEDOM FROM BUGS, SOFTWARE ERRORS OR DEFECTS, THAT THE CONTENT'S FUNCTIONING WILL BE UNINTERRUPTED OR THAT THE CONTENT WILL OPERATE WITH ANY SOFTWARE OR HARDWARE CONFIGURATION.** In no event shall S&P Global Parties be liable to any party for any direct, indirect, incidental, exemplary, compensatory, punitive, special or consequential damages, costs, expenses, legal fees, or losses (including, without limitation, lost income or lost profits and opportunity costs or losses caused by negligence) in connection with any use of the Content even if advised of the possibility of such damages. S&P Global Market Intelligence's opinions, quotes and credit-related and other analyses are statements of opinion as of the date they are expressed and not statements of fact or recommendations to purchase, hold, or sell any securities or to make any investment decisions, and do not address the suitability of any security. S&P Global Market Intelligence may provide index data. Direct investment in an index is not possible. Exposure to an asset class represented by an index is available through investable instruments based on that index. S&P Global Market Intelligence assumes no obligation to update the Content following publication in any form or format. The Content should not be relied on and is not a substitute for the skill, judgment and experience of the user, its management, employees, advisors and/or clients when making investment and other business decisions. S&P Global Market Intelligence does not act as a fiduciary or an investment advisor except where registered as such. S&P Global keeps certain activities of its divisions separate from each other in order to preserve the independence and objectivity of their respective activities. As a result, certain divisions of S&P Global may have information that is not available to other S&P Global divisions. S&P Global has established policies and procedures to maintain the confidentiality of certain nonpublic information received in connection with each analytical process.

S&P Global may receive compensation for its ratings and certain analyses, normally from issuers or underwriters of securities or from obligors. S&P Global reserves the right to disseminate its opinions and analyses. S&P Global's public ratings and analyses are made available on its Web sites, www.standardandpoors.com (free of charge), and www.ratingsdirect.com and www.globalcreditportal.com (subscription), and may be distributed through other means, including via S&P Global publications and third-party redistributors. Additional information about our ratings fees is available at www.standardandpoors.com/usratingsfees.

© 2023 S&P Global Market Intelligence.