

**PA Senate Hearing: Importance of Pennsylvania Waterways to Energy and Economic Development
Testimony by Hilary Mercer, SVP – Shell Polymers/Pennsylvania Chemicals**

Chairman Yaw, Chairwoman Comitta, and members of the Committee, thank you for this opportunity to testify this morning on this key topic of the importance of waterways to energy and economic development.

I'd like to start by sharing a tangible example of how Pennsylvania's waterways played a key role in Shell's investment in the greater Pittsburgh region and factored into the location choice to both build our plant and launch a new business. I would also like to share how we can continue to grow economic development while protecting the environment through decarbonization. There is an immense opportunity for industry, government, nongovernmental organizations, and the broader public to work together to build a new era of manufacturing in Pennsylvania while safeguarding its natural resources.

When Shell made its final investment decision to build our petrochemicals facility in Monaca, the ability to transport materials via waterways, particularly large pieces of equipment, factored into this decision making. This is the fifth mega project I've built with Shell, and I can verify a project of this scale is enabled by access to waterways. Access to the Ohio River was vital to accepting deliveries that would be too large or involve risk if transported by road or rail. Many of the large pieces of equipment traveling down a highway could interfere with electric cables or restrict it from being able to travel through tunnels and across bridges, its width could block an entire roadway, and its weight may not even make it possible to safely travel on a road. Transportation by river takes trucks off the road and reduces risk and impacts to traffic patterns. Ohio River Water is also essential to the operation of our facility. The site uses the river water to make filtered water that supplies our Cooling Water, Demin Water, and Firewater systems. The Ohio River allows our region to remain economically competitive as we can enjoy similar benefits that the Gulf Coast petrochemicals facilities do, even though we are inland.

Certainly, river transportation isn't without its challenges, and we've found great partnership in the U.S. Army Corp of Engineers to help overcome them. Due to flooding on the Mississippi River, Shell utilized the Tennessee Tombigbee River as an alternative route for deliveries. While Shell's barges were transporting on it, the river silted up and it became impassible. The U.S. Army Corp dredged the river, using one of Shell's tugboats, to ensure it was safely passable. They also assisted us in coordination of barges delivering equipment through the lock and dam system. This included timing the arrival of vital pieces of equipment with scheduled, planned maintenance and shut down of the Montgomery Lock. The complexity and the benefits of the river systems play a direct role in economic development of our region.

Today, the construction phase of our facility in Monaca is complete which brings us closer to startup of operations, anticipated later this summer. We've erected 42,000 tons of steel, poured 240,000 cubic yards of concrete, and installed 1.2 million linear feet of piping. These are just a few examples of the types of materials we may have transported along the Ohio River. We reached peak construction in 2020 with nearly 9,000 craft workers onsite. This of course presented challenges, not the least of which was the global pandemic, but I'm pleased to say we overcame them safely and successfully. All together, we administered 37,000 COVID-19 tests and 4,000 vaccines onsite. The Shell Polymers team continues to work safely and diligently through the current commissioning phase of the plant.

There are even more opportunities for economic development in our region and the next chapter of investment in Pennsylvania can be realized through decarbonization. Shell has a deep global commitment to decarbonization, it is woven into our strategy, and we are working to become net-zero by 2050 or sooner, in step with society. Shell has end-to-end decarbonization capabilities and is leveraging its global capabilities to proactively mature the potential for decarbonization hubs with local and global partners. Regionally, Shell envisions the area as an end-to-end decarbonization hub, featuring CCUS, Renewables, H₂, low CI feedstocks and products, circular plastics, advanced energy management, and nature-based solutions, with CO₂ capture and blue H₂ by 2027 if investments and actions are taken today. The Appalachia region, and particularly Pennsylvania, are well-positioned to become a leader in decarbonization and "future-proof" the region due to its access to natural gas as an input to Blue H₂, advantaged regional geology, and incumbent industry with incentive and capabilities to decarbonize.

Appalachia's 110Mtpa of CO₂ emissions requires multiple levers to decarbonize, making it an excellent candidate for a decarbonization hub. End-to-end decarbonization hubs have not been fully developed in any region – the Appalachia region has an opportunity to lead in business and technology expertise and policy definition by being first. The region's emissions heavy industries make it critical to act now, and those same businesses have the commitment and workforce to lead in the transition.

The Marcellus Shale footprint in this region produces natural gas that has the lowest carbon intensity of any gas produced in the USA. Further decarbonizing its processing and use in developing low CI products will further and deepen this advantage. Pennsylvania has a diverse set of incumbent industries (e.g., Refining, Iron and Steel), which are vital to the economy, but have a higher carbon footprint. CCUS is an applicable decarbonization lever. The region's geology is naturally suited to carbon capture and provides ample storage opportunity; aquifer or oil storage in region could absorb ~250 years of current industry emissions.

Shell plans to utilize the Appalachia region's unique geology and its Monaca asset to build and develop a hub for carbon capture. Our sink can be utilized by other emitters in the region – and can become a lighthouse project for emissions from Western Ohio and Michigan. Processors will utilize CCUS as the primary decarbonization lever, with CO₂ pipelines pulling emissions to Shell's Monaca Carbon Storage Hub.

H₂ can help jump-start decarbonization in steel applications, where DRI-EAF is more practical, and provide feedstock to refiners. Blue H₂ in the region is particularly intriguing given proximity to local feedstock – Pennsylvania could become a leader in Hydrogen production and applications. Utilizing the H₂ and SMR from Shell's Monaca Hub, this could jump-start decarbonization as DRI-EAG is more practical and provides feedstock to refiners.

But to move forward, Pennsylvania needs the basic legislative and regulatory building blocks. These blocks include comprehensive carbon capture legislation that addresses issues such as subsurface ownership rights and liability. We also need to consider primacy for the Class VI Underground Injection Program from the United State Environmental Protection Agency.

Shell sees itself as a leader in the energy transition. We have a core group leading these conversations and we are interested in bringing more partners to our table where we all come together to drive meaningful change and progress toward decarbonization goals here in Pennsylvania. I'm optimistic we

can work together to build upon the manufacturing legacy that this region was founded upon and do so while protecting Pennsylvania's environment.

Thank you, Chairman Yaw, Chairwoman Comitta and members of the committee. I look forward to addressing any questions you may have.