

# High-Quality Early Learning: Building the Workforce Pipeline for the Energy Industry

## A new generation of skilled workers must be prepared to fill the energy and utility industry's skills gap!

The energy and utility sector, including traditional and renewable sources of energy, plus water, is projected to produce 2.4 million new STEM jobs from 2015 to 2018. These positions offer average salaries 160 to 300 percent more than the U.S. average. However, there are not enough students with strong STEM skills pursuing careers in the energy and utility industries. The increased demand for STEM skills and the retirement of large numbers of baby boomer workers has created a skills gap in this sector. More than half (55 percent) of the sector workforce may need to be replaced in the next 10 years. We need a new generation of well-trained, highly skilled employees to allow the sector to continue to grow and prosper.

## Where do we start? Quality early learning programs can help build the stem pipeline for energy jobs

A comprehensive solution to the skills gap requires that we start early. Disadvantaged children can lag behind their peers before they enter kindergarten, entering school already up to 18 months behind. High-quality early childhood education, which includes early math and science instruction, can lay the foundation for a future workforce that has the STEM and other skills this sector needs.



More than half of the energy workforce may need to be replaced in the next 10 years.

“One of the keys to creating an energy workforce that will keep America competitive in the modern, global economy is committing to high-quality early education with a focus on STEM skills.”

— Paul Bowers, Chairman, President and CEO, Georgia Power



## WHAT CAN BUSINESS LEADERS DO TO TAKE ACTION?

- Join ReadyNation! There are no costs or meetings, only a willingness to consider invitations to speak out, with our support.
- Speak to policymakers and/or the media — we prepare remarks.
- Support local early education programs in your community. Visit [www.ReadyNation.org/Ready2Go](http://www.ReadyNation.org/Ready2Go) for ideas.

Math skills learned in preschool predict success into elementary and high school, in both math and reading. Research showed that disadvantaged children who had quality early learning were more likely to finish high school, attend college and be employed. Early childhood education also builds the behavior skills — patience, problem-solving, team-work — that are essential for STEM jobs — and other positions as well. A recent study showed that “Kindergartners who share, cooperate and are helpful are more likely to have a college degree and a job 20 years later than children who lack those social skills” — skills that children can learn in preschool. As a result of these and other benefits, preschool can return to society an average “profit” of over \$26,000 for every child served.

### The bottom line

To secure the future of the energy industry and the economy, children must be prepared for the rigors of postsecondary education and the workforce. Companies can have a large impact by supporting efforts to put children on the right path and build the pipeline for a highly skilled future workforce.

#### ENDNOTES

- i Carnevale, A.P., Smith, N., & Strohl, J. (2010, June). Recovery: Job Growth and Education Requirements Through 2020. Washington, DC: Georgetown University Center on Education and the Workforce. Retrieved from [https://cew.georgetown.edu/wp-content/uploads/2014/11/Recovery2020.FR\\_Web\\_.pdf](https://cew.georgetown.edu/wp-content/uploads/2014/11/Recovery2020.FR_Web_.pdf)
- ii Giffi, C., Dollar, B., Drew, M., McNelly, J., Carrick, G., Gangula, B. (2015). The skills gap in U.S. manufacturing 2015 and beyond. Washington, DC: Deloitte Development LLC.
- iii Barnett, W. S., Tarr, J. E., Esposito Lamy, C., & Frede, E. C. (2001). Fragile lives, shattered dreams: A report on the implementation of preschool education in New Jersey’s Abbott Districts. New Brunswick, NJ: National Institute for Early Education Research.
- iv Clements, D. H. & Sarama, J. (2011, August 19). Early Childhood Mathematics Intervention. *Science*, 33 (6045).
- v Washington State Institute for Public Policy (2014, August). Benefit-cost summary State and district early education programs. Olympia, WA: Author. Retrieved from: <http://www.wsipp.wa.gov/BenefitCost/Program/270>.

### CORPORATE LEADERSHIP

ExxonMobil supports the United Way’s Bright Beginnings program, an innovative early education program in Houston designed to help children from lower-income families achieve developmental milestones and enter school ready to succeed.

“We need to start early to build the diverse, qualified talent that we will need. Students need a strong foundation in STEM as well as employability skills like problem solving, critical thinking, and teamwork to be prepared for tomorrow’s workforce.”

— Ann Randazzo, Executive Director,  
Center for Energy Workforce Development

#### WHO WE ARE

*ReadyNation is a business leader organization working to strengthen business through better policies for children and youth. Our members educate local, state, national, and international policymakers and the media about effective investments that will help business compete in today’s global marketplace by helping children get on the right track to succeed in school and in life.*

*We invite anyone from a business or business organization to join. There are no membership fees, financial obligations, or formal meetings. Our staff support our members to take action, making the best use of their time. Go to [www.readynation.org/join-us](http://www.readynation.org/join-us).*

*For a list of citations and our funders, see our website.*

*ReadyNation is a nonprofit membership organization of business leaders that operates under the umbrella of the nonprofit Council for a Strong America.*

#### Add your voice.

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