



IEEE PES Scholarship Plus Initiative Overview

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IEEE Power & Energy Society
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IEEE Power & Energy Society
SCHOLARSHIP PLUS INITIATIVE®

Preparing the Next Generation of Power & Energy Engineers

IEEE Foundation



Developing the Power Industry Innovators of the Future



Provides scholarships and real world experiences to undergraduate EE students interested in power and energy engineering careers in the US, Canada, and Puerto Rico.

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Overview

- Established in 2011 as a joint program between PES & Foundation
- Addresses the crucial talent development challenge facing the energy industry by generating power engineers needed to sustain and transform electric energy systems upon which the United States & Canada so heavily rely
- Awards scholarships (up to US\$7,000 over three years) to undergraduate EE students attracting top talent to the power and energy industry
- Connects Scholars to companies seeking highly qualified interns and co-ops giving them vital career experience prior to graduation

PES Scholars Receive

- Up to US\$7,000 in financial support:
 - US\$2,000 1st/2nd year - US\$3,000 3rd year
- Assistance in getting up to 2 years of power engineering career experience before graduation
- One free year of membership in IEEE & PES – student must pay for additional years if they want scholarship renewed
- Access to PES mentors - industry professionals



- Top Scholar in each Region (1-7) receives an additional \$5,000 & up to \$1,000 to attend the PES General Meeting

Scholarship Requirements



- Applicants must:
 - Consider a career in electric power and energy engineering.
 - Be working toward an electrical engineering bachelor's degree.
 - Be a full-time student in the coming academic year at a university or college in the U.S. or Canada that offers undergraduate courses in power engineering.
 - Willing to take at least three of the power engineering courses for a total of nine or more credits.
 - U.S. or Canadian citizen or permanent resident and reside in IEEE Regions 1 through 7.
 - Currently enrolled full-time at a university/college or community college.
 - Current GPA is 3.0 or higher on a 4.0 scale (or equivalent).

Basic Commitment for a student

- What must a recipient agree to do?
 - Willingness to explore power and energy engineering as a career
 - Obtain relevant career experiences
 - Take course work on power and energy engineering subjects
 - Look for opportunities to learn about the industry (such as through industry presentations and mentoring)

No penalty if the student decides not to pursue a power & energy engineering career.



2017 PES Scholarship Recipients

Region	PES Scholars	Total Schools
1	35	17
2	25	12
3	41	31
4	34	18
5	35	17
6	35	17
7	4	3
9	1	1

- 7th class of PES Scholarship Recipients
- 210 Scholarship Recipients from 114 Schools
 - 92 Seniors
 - 87 Juniors
 - 31 Sophomores
- 5 of the 7 top scholars from each Region are female

2017 – Schools with most recipients by Region

Region	School	Total
1	Northeastern University	6
2	Rowan University	7
3	Mississippi State University North Carolina State University	5
4	University of Illinois @ Urbana-Champaign	7
5	Texas A&M University	6
6	Arizona State University Montana State University	5
7	University of Manitoba	2

Schools with Scholarships Received/Scholars

(2011 to 2017)



59 (34)



42 (25)



40 (24)



WPI

39 (19)



37 (22)



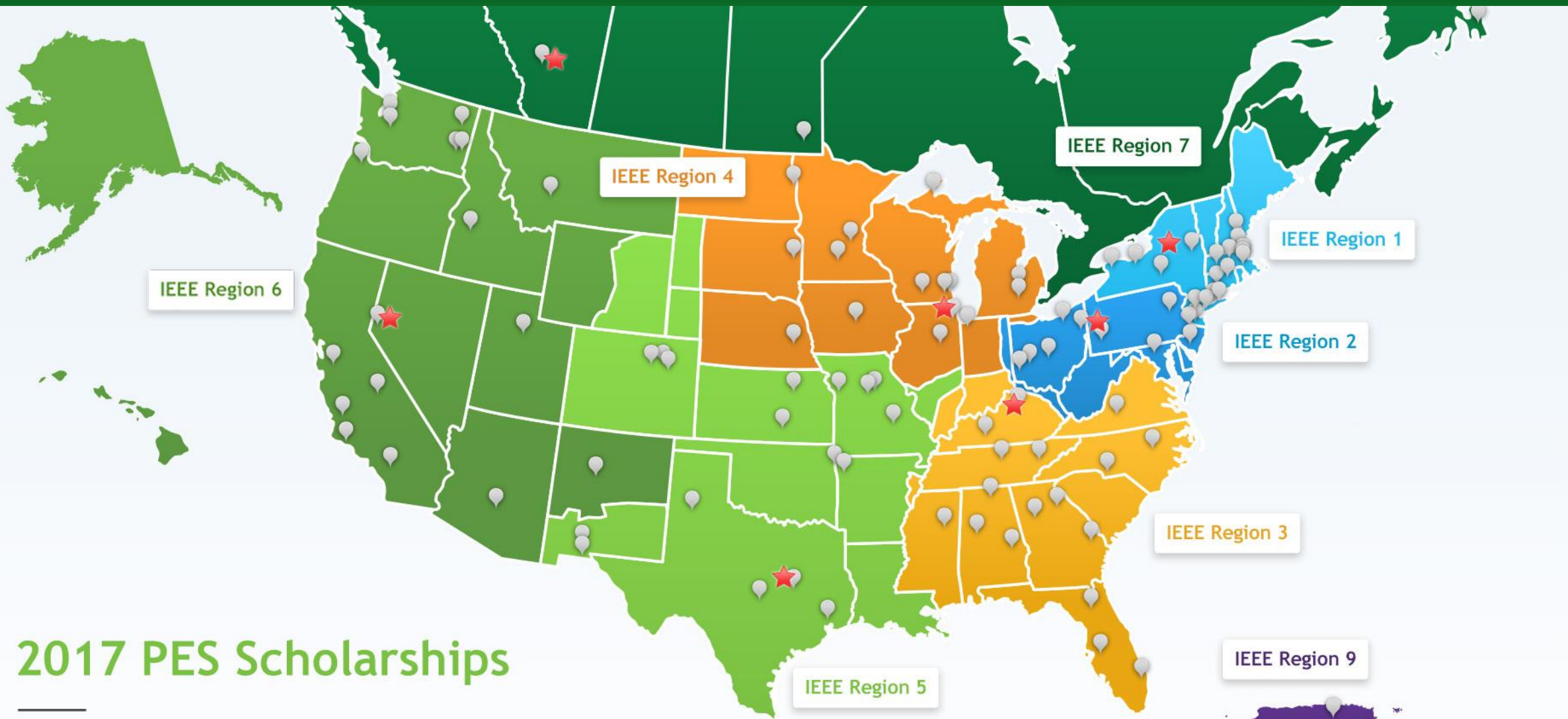
29 (19)

- Direct correlation to having a faculty champion at the school and the number of applications/recipients from each school.

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(# of students who received Scholarship)





2017 PES Scholarships

This year we awarded **210 scholarships** to students across North America. Since 2011, **835 scholars** from **194 universities** have received scholarships.

Where & When to Apply

- Application period 1 March to 30 June
- Applicants will be contacted via email Mid-September 2018

www.ee-scholarship.org



PES Scholars work at...



Working at over 250 organizations

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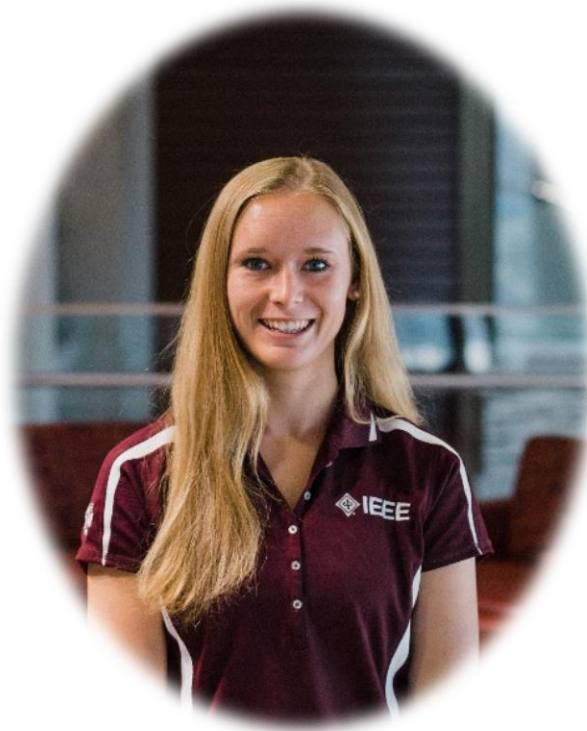


Engineered to order. Built to last.



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Questions?



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Back Up Material



IEEE



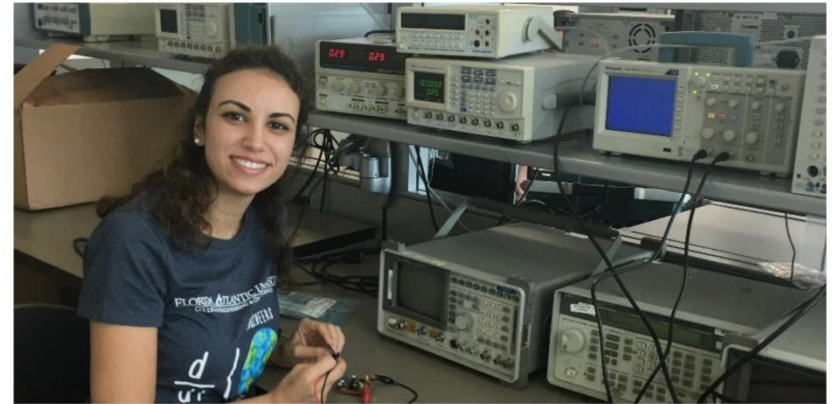
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Building a Pipeline of Power Engineers

- 1,382 scholarship awarded to 835 students since 2011
- 400+ Scholars working full-time within the industry
- Creating power engineering career awareness
- Increasing student awareness and membership in PES
- Building a younger PES membership demographic
- PES Careers site connects students and industry
- Increasing gender diversity
- Expanded to Canada, India, Italy & Puerto Rico



Why Now?

- U.S. Power & Energy Engineering Workforce Collaborative – April 2009
 - Recommended doubling the number of power engineering graduates by awarding scholarships
- February 2015 Survey of Utility Executives indicated the aging of the utility workforce is their second most pressing concern
- Demand for qualified power engineers is projected to increase
 - Projections indicate that, by 2030, the energy sector overall, including the transmission, storage, and distribution segment, will employ an additional 1.5 million workers." - April 2015 Quadrennial Energy Review
- 45% of the Power Engineers could leave the workforce (i.e. attrition/retirement) by 2026 (2017 CEWD Survey)

2017 Highlights

- 529 students from more than 200 U.S., Puerto Rico and Canadian universities submitted an application.
- Awarded US\$479,000 in PES Scholarships to **210 students from 114 universities** across the U.S., Canada & Puerto Rico.
 - Selected seven (7) individuals to receive the IEEE PES John W. Estey Outstanding Scholar Award in the amount of \$5,000 each.
 - 5 of 7 JWE Outstanding Scholars are female
 - Identified PES Scholars at the University of Illinois Champaign supported by the G&W Electric Company
 - IEEE PES G. Ray Ekenstam Memorial Scholarship recipient (Chris Calderwood) selected from the PES Scholars who are also U.S. Veterans.
- IEEE PES Italy Scholarship Award identified 4 recipients

Global Presence – Expanded to Italy in 2017

- Program was specifically established to address an issue in the USA but progress is being made to expand it globally based on local support.
 - 2012 – Canada
 - 2015 – Puerto Rico
 - 2015 - India
 - 2017 – Italy
 - Received corporate support from Schneider Electric with matching funds from Foundation
 - 2018 – Peru or other locations?



Ali Raja Aitazaz @ the PES ISGT-Europe Conference – Sept 2017

Promotional Video

- Encourages companies to support the program – using testimonials from employers, students & S+ donors
- Created a short (< 1 min.) video focusing on key benefits/opportunities available to supporting organizations.
- Used still photography and audio-only interviews with participants.



IEEE PES Scholarship Plus Initiative

Jackson – University of Nebraska



I love making decisions that will have positive lasting impacts on our society and environment. This scholarship led me to the PES Student Congress that allowed me to develop my professional network and learn more about the industry.

This scholarship reduced my needing to take out additional student loans & lets me focus on my academic career.

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Alisha – University of Alabama



The thing that I love about power engineering is that it truly engages with people from all walks of life. We all interact with electricity on a daily basis and the power engineering field offers me the opportunity to play a role in the delivery of this necessity. I am most excited about the rapidly changing face of the power engineering field. This is a time where the industry is being transformed in ways that it has not been shaped in decades.

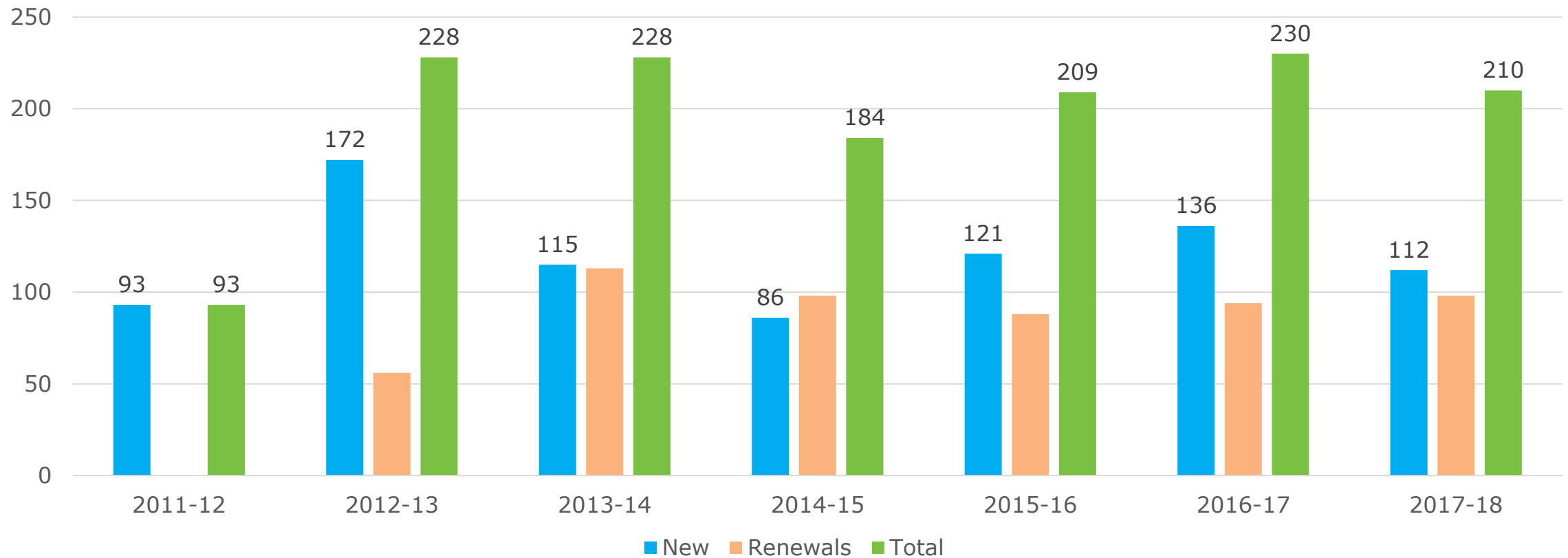
Carlton – University of Texas



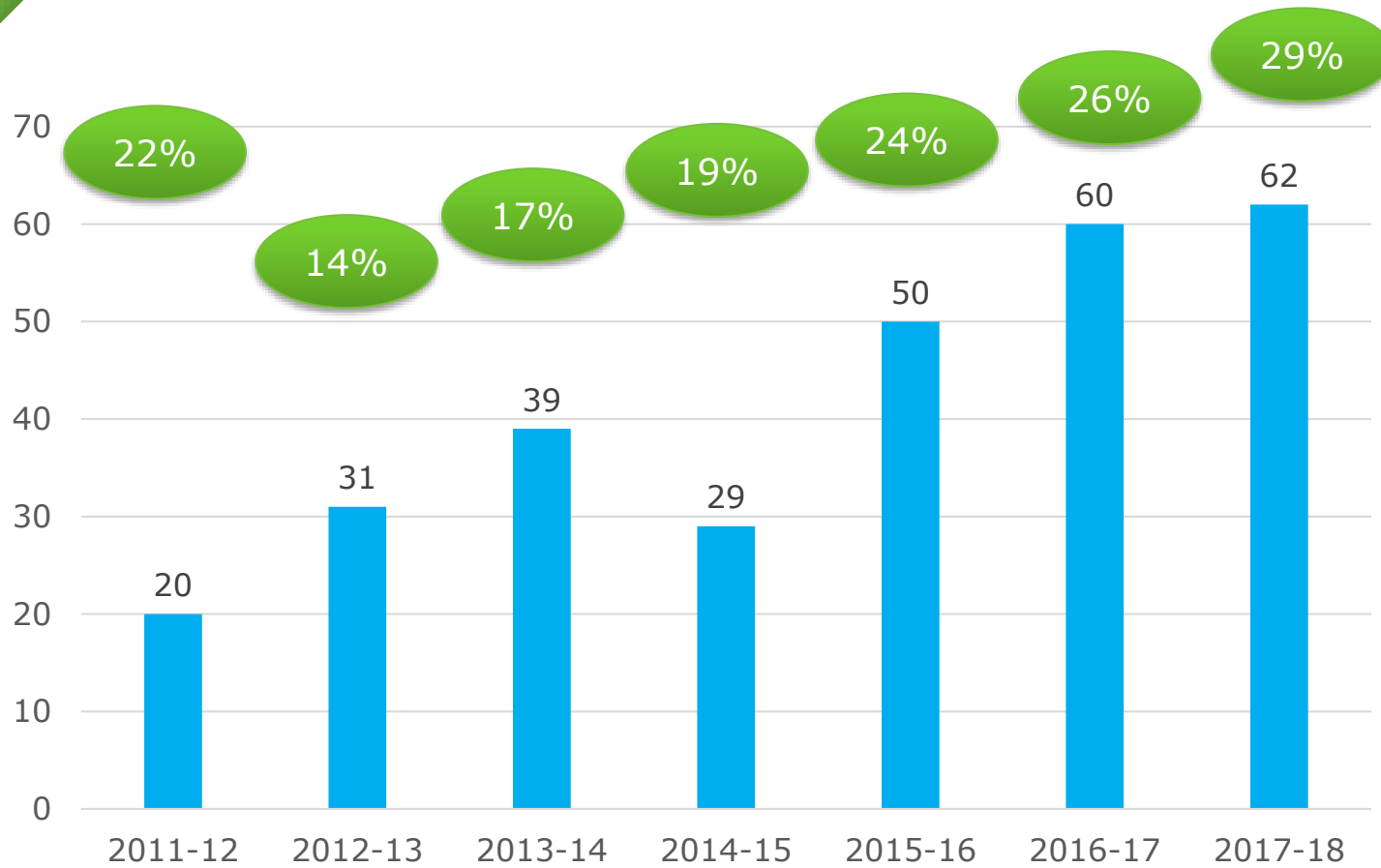
We, as power engineers, are needed in almost every aspect of society and we help deliver an important product that this world cannot live without. Thus, I know that the work I do, even if it is a small part, plays a meaningful role in our society. This scholarship has made being a college student that much easier.

PES Scholars by Year

- The number of new scholars is dependent on new funding being provided to the program.



Female Scholars by Year



5 of the 7 top scholars selected in 2017 are female



PES Scholars in the workforce

835 individuals received the scholarship

- 49% - Full-Time Position (414)
- 32% - In School (265)
- 10% - Graduate School (87)
- 8% - Unknown (69)

