

## Independent Third Party Assurance Statement

### **To the Board and stakeholders of PQ Group Holdings Inc.:**

BPA iCompli Sustainability, a division of BPA Worldwide, Inc., was commissioned by PQ Group Holdings Inc. to provide independent third party assurance of specific sustainability performance data from its business activities during the period January 1, 2018, to December 31, 2018.

### **Assurance Standards**

This engagement has been managed in accordance with ISO 14064-3: *Greenhouse gases – Specification with guidance for the validation and verification of greenhouse gas assertions*. The format of the engagement was structured to meet the ‘limited’ level of assurance requirements.

### **Assurance Objectives**

The objective of the assurance process was to provide PQ Group Holdings Inc. stakeholders with an independent ‘limited’ level assurance opinion on whether:

- The specific sustainability performance data within PQ Group Holdings Inc. reports adheres to the ISO 14064-3 principles of relevance, completeness, consistency, accuracy, and transparency.
- The specific sustainability performance data within PQ Group Holdings Inc. reports were reported according to the requirements of the WBCSD/WRI Greenhouse Gas (GHG) Protocol Corporate Accounting and Reporting Standard, Revised Edition.

### **Independence**

BPA iCompli Sustainability has not been responsible for the preparation of any part of the sustainability performance information, nor have we undertaken any commissions that would conflict with our independence. Responsibility for producing the sustainability performance information belonged to PQ Group Holdings Inc. and its sustainability reporting advisors.

### **Assurance Scope**

PQ Group Holdings Inc. engaged BPA iCompli Sustainability to verify the following specific sustainability performance data:

- Scope 1 GHG emissions (GRI Standards Disclosure 305-1)
- Scope 2 GHG emissions (GRI Standards Disclosure 305-2)
- Water withdrawal by source (GRI Standards Disclosure 303-1)
- Waste management (GRI Standards Disclosure 306-2)

The organizational boundary of the verification was PQ Group Holdings Inc. global portfolio of operating headquarters; manufacturing, administrative, research and development, office, warehouse, and testing facilities.

### **Assurance Approach and Limitations**

BPA iCompli Sustainability conducted the verification in accordance with the requirements of ISO 14064-3: *Greenhouse gases – Specification with guidance for the validation and verification of greenhouse gas assertions*. BPA iCompli Sustainability reviewed PQ Group Holdings Inc. corporate sustainability database (“Final 2018 Assured Sustainability Data Spreadsheet 27March”) and associated facility sustainability scorecard datasets and evaluated them for conformity with the requirements of the WBCSD/WRI Greenhouse Gas (GHG) Protocol Corporate Accounting and Reporting Standard, Revised Edition (2004). PQ Group Holdings Inc. reported Scope 1, and 2 GHG emissions, water withdrawal and waste management data were considered free of material misstatement if found to be within the defined materiality threshold of 5%. PQ Group Holdings Inc. assertions were tested according to a risk-based approach and the review of controls to manage these risks, including:

- Management system and procedural review for accuracy, reliability and reproducibility;
- Testing and re-calculation of representative sources and processes;
- Visits to PQ Group Holdings Inc. production facilities in Chester, Pennsylvania and principal executive offices in Malvern, Pennsylvania, to interview facility and corporate personnel, observe operations, and review relevant documents and records, and;
- Audit of a sample of original source activity data (supplier invoices) of energy consumption, water withdrawal and waste management representing a cross-section of PQ Group Holdings Inc. global facilities and production methods.

## Independent Third Party Assurance Statement

PQ Group Holdings Inc. reported the following specific sustainability performance data totals for the 2018 calendar year:

Emissions Data	Reported Total
Scope 1 GHG emissions (GRI 305-1)	1,414,229 tonnes CO <sub>2</sub> e
Scope 2 GHG emissions (GRI 305-2)	183,126 tonnes CO <sub>2</sub> e

Waste Data	Reported Total
Total Waste	108,451 tonnes
Hazardous Waste	11,492 tonnes
Non-Hazardous Waste	96,980 tonnes
Waste Recycled	35,760 tonnes

Water Data	Reported Total
Water withdrawal	23,224,125 cubic meters

### Conclusions

Based on the process and procedures conducted, there is no evidence that PQ Group Holdings Inc.'s assertion:

- is not materially correct; and
- is not a fair representation of GHG data and information; and
- has not been prepared in accordance with the WBCSD/WRI Greenhouse Gas (GHG) Protocol Corporate Accounting and Reporting Standard, Revised Edition.

### Recommendations

As part of the assurance engagement, BPA iCompli Sustainability has provided PQ Group Holdings Inc. with a series of recommendations to ensure the continual improvement of the collection, storage, analysis, and reporting of specific sustainability performance data at the corporate and facility level.

### Attestation



Stephen Boles, B.Sc., M.Sc., EP (Sustainability)  
Lead Verifier  
BPA iCompli Sustainability  
Exeter, Ontario, Canada

March 27, 2020