



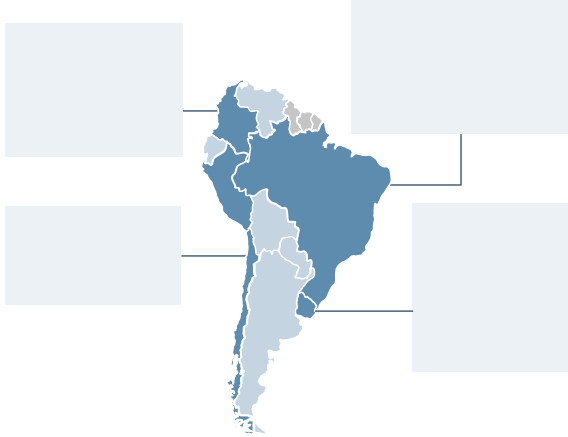
**northeast** group, llc

# South America Smart Grid: Market Forecast (2020 – 2029)

Volume V  
May 2020 | [www.northeast-group.com](http://www.northeast-group.com)

## South America Smart Grid: Market Forecast (2020 – 2029)

### RECENT AND UPCOMING ACTIVITY



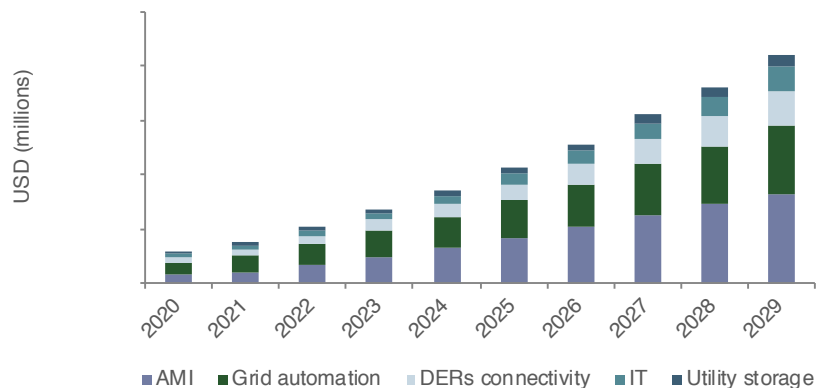
South America’s smart grid market has in the past regularly fallen short of expectations, but has recently shown signs of picking up. Promising signs over a decade ago gave way to abandoned rollouts, regulatory confusion, and little activity beyond pilot projects. Consequently, any optimism surrounding the South American market can and should be eyed with skepticism. But over the past three years, a combination of public and private sector activity have signaled that the region will finally be an investment destination in the 2020s. All of which, of course, now hinges on

the global recovery from the Covid-19 pandemic and its economic fallout—a recovery not yet in sight as of this publishing. The full effect of the pandemic cannot yet be known, but several key characteristics of South America’s smart grid market, and the long-term forecasts they support, are likely to endure even in the worst case scenarios.

Most of the smart grid investment opportunity can be found in Brazil, the sixth most populous country in the world and home to 17 of the region’s 25 largest utilities. The largest smart meter deployment in the region to date was completed by a Brazilian utility (1.2 million cabinet meters at Light) and several of the region’s most ambitious upcoming and currently ongoing projects are found in Brazil. Over the next ten years, Brazil will invest more in smart grid infrastructure than the region’s nine other countries combined.

Colombia and Chile join Brazil as regional leaders—both governments introducing regulatory frameworks in 2019 that will be essential to creating an environment for continuous smart grid investment (Uruguay will actually complete the first nationwide AMI rollout, but represents a small market). If these frameworks lead to successful large-scale rollouts, the impact will go beyond

### SOUTH AMERICA SMART GRID FORECAST (BY SEGMENT)



Colombia and Chile. The rest of the region—all of which have significant pilot projects in place already—will be presented with regulatory templates to follow.

New entrants are also reshaping the market. Italian-based multinational utility Enel—the global smart grid leader among utilities—has been expanding its presence in the region. Enel is already carrying out AMI trial deployments in Brazil and reportedly has plans to deploy across all South American subsidiaries, which could have a multiplier effect on the whole continent. Meanwhile, multiple Chinese companies have also entered the market, buying both utilities (in the case of State Grid of China) and local vendors, which will lower meter hardware prices, but perhaps place greater importance on communications and software.

Overall, South America stands to benefit tremendously from smart grid infrastructure. With a 15% regional average, nearly all South American utilities struggle with T&D losses, with particularly high electricity theft (non-technical loss) rates. There are also important long-term benefits to smart grid infrastructure such as managing rising middle class demand and increased use of distributed and renewable generation. Utilities can therefore make near-term deployments to help reduce non-technical losses, while laying the groundwork for long-term benefits. While these incentives have not been enough on their own to spur investment in the past, aggressive action in the private sector and the much needed arrival of strong regulatory frameworks should finally allow South America's smart grid market to begin to fulfill its potential.

Key questions answered in this study:

- How large will the smart grid market be across South America?
- Which utilities are poised to begin large-scale smart meter rollouts?
- What is the status of smart grid regulation in each country in the region?
- How will the entry of Chinese vendors impact market dynamics?
- Which local and international vendors will be most active in the region?

**Deliverables:** *141-page PDF study + 32-slide executive summary presentation + Excel dataset*

## Table of Contents

|  |           |
|--|-----------|
| i. Executive summary                       | 1         |
| <b>1. What's new in 2020?</b>              | <b>6</b>  |
| <b>2. South America: Regional snapshot</b> | <b>19</b> |
| <b>3. Market forecast</b>                  | <b>28</b> |
| <b>4. Brazil</b>                           | <b>38</b> |
| 4.1 Electricity industry structure         | 39        |
| 4.2 Market readiness                       | 41        |
| 4.3 Smart grid regulations                 | 42        |
| 4.4 Smart grid activity                    | 43        |
| 4.5 Smart grid forecast                    | 48        |
| <b>5. Colombia</b>                         | <b>49</b> |
| 5.1 Electricity industry structure         | 50        |
| 5.2 Market readiness                       | 51        |
| 5.3 Smart grid regulations                 | 52        |
| 5.4 Smart grid activity                    | 53        |
| 5.5 Smart grid forecast                    | 55        |
| <b>6. Chile</b>                            | <b>56</b> |
| 6.1 Electricity industry structure         | 57        |
| 6.2 Market readiness                       | 58        |
| 6.3 Smart grid regulations                 | 59        |
| 6.4 Smart grid activity                    | 60        |
| 6.5 Smart grid forecast                    | 62        |
| <b>7. Argentina</b>                        | <b>63</b> |
| 7.1 Electricity industry structure         | 64        |

## Table of Contents (cont.)

|                                     |           |
|-------------------------------------|-----------|
| 7.2 Market readiness                | 65        |
| 7.3 Smart grid regulations          | 66        |
| 7.4 Smart grid activity             | 67        |
| 7.5 Smart grid forecast             | 69        |
| <b>8. Peru</b>                      | <b>70</b> |
| 8.1 Electricity industry structure  | 71        |
| 8.2 Market readiness                | 72        |
| 8.3 Smart grid regulations          | 73        |
| 8.4 Smart grid activity             | 74        |
| 8.5 Smart grid forecast             | 75        |
| <b>9. Ecuador</b>                   | <b>76</b> |
| 9.1 Electricity industry structure  | 77        |
| 9.2 Market readiness                | 78        |
| 9.3 Smart grid regulations          | 79        |
| 9.4 Smart grid activity             | 80        |
| 9.5 Smart grid forecast             | 81        |
| <b>10. Uruguay</b>                  | <b>82</b> |
| 10.1 Electricity industry structure | 83        |
| 10.2 Market readiness               | 84        |
| 10.3 Smart grid regulations         | 85        |
| 10.4 Smart grid activity            | 86        |
| 10.5 Smart grid forecast            | 87        |
| <b>11. Paraguay</b>                 | <b>88</b> |
| 11.1 Electricity industry structure | 89        |

## Table of Contents (cont.)

|                                       |            |
|---------------------------------------|------------|
| 11.2 Market readiness                 | 90         |
| 11.3 Smart grid regulations           | 91         |
| 11.4 Smart grid activity              | 92         |
| 11.5 Smart grid forecast              | 93         |
| <b>12. Venezuela</b>                  | <b>94</b>  |
| 12.1 Electricity industry structure   | 95         |
| 12.2 Market readiness                 | 96         |
| 12.3 Smart grid regulations           | 97         |
| 12.4 Smart grid activity              | 98         |
| 12.5 Smart grid forecast              | 99         |
| <b>13. Bolivia</b>                    | <b>100</b> |
| 13.1 Electricity industry structure   | 101        |
| 13.2 Market readiness                 | 102        |
| 13.3 Smart grid regulations           | 103        |
| 13.4 Smart grid activity              | 104        |
| 13.5 Smart grid forecast              | 105        |
| <b>14. Vendor activity</b>            | <b>106</b> |
| 14.1 Market share                     | 106        |
| 14.2: Local vendors                   | 108        |
| 14.3 International metering vendors   | 109        |
| 14.4 International telecom players    | 111        |
| 14.5 International grid vendors       | 112        |
| <b>15. Appendix</b>                   | <b>113</b> |
| 15.1 List of South American utilities | 113        |

## Table of Contents (cont.)

|                                      |     |
|--------------------------------------|-----|
| 15.2 Methodology                     | 118 |
| 15.3 Smart grid overview             | 120 |
| 15.4: Global smart grid activity     | 122 |
| 15.5: List of companies and acronyms | 125 |

## List of Figures and Tables

|   |    |
|---|----|
| South America smart grid: Key takeaways                                       | 3  |
| Smart metering status and plans at top 25 South American utilities            | 4  |
| AMI and GDP growth adjustments due to Covid-19                                | 5  |
| Figure 1.1: Smart grid sector recovery  | 6  |
| Figure 1.2: South America annual AMI deployment scenarios (Covid-19-adjusted) | 7  |
| Table 1.1: Country updates  | 9  |
| Figure 1.3: Recent and upcoming activity                                      | 10 |
| Figure 1.4: South America near-term annual AMI deployments                    | 11 |
| Table 1.2: South America near-term annual AMI deployments (units)             | 11 |
| Table 1.3: Enel utilities in South America                                    | 12 |
| Figure 1.5: Activity by Chinese companies                                     | 13 |
| Table 1.4: Acquisitions by Chinese companies                                  | 14 |
| Table 1.5: New developments in power sector regulation and organization       | 15 |
| Figure 1.6: The long road to finalizing smart meter regulations               | 16 |
| Figure 1.7: Political risk in South America                                   | 17 |
| Figure 1.8: South America smart grid forecast update                          | 18 |
| Figure 2.1: Smart meter market attractiveness                                 | 19 |
| Figure 2.2: Pre-Covid-19 GDP growth & CO <sub>2</sub> emissions projections   | 20 |
| Figure 2.3: Per capita electricity consumption                                | 20 |
| Table 2.1: Impact of Covid-19 on GDP growth projections                       | 21 |
| Table 2.2: Smart grid benefits by country                                     | 22 |
| Table 2.3: Confronting smart grid barriers                                    | 23 |
| Figure 2.4: Battery cost forecasts across 28 studies                          | 26 |

## List of Figures and Tables (cont.)

|   |    |
|---|----|
| Figure 2.5: South America EVSE cumulative forecast                        | 27 |
| Table 2.4: South America EVSE cumulative forecast (\$m)                   | 27 |
| Figure 3.1: Regional AMI penetration %                                    | 28 |
| Figure 3.2: South America smart grid cumulative forecast (by segment)     | 29 |
| Table 3.1: South America smart grid cumulative forecast data (\$m)        | 29 |
| Figure 3.3: South America smart grid cumulative forecast (by country)     | 30 |
| Table 3.2: South America smart grid cumulative forecast (by country, \$m) | 30 |
| Figure 3.4: South America AMI cumulative forecast (units)                 | 31 |
| Table 3.3: South America AMI cumulative forecast (units, m)               | 31 |
| Figure 3.5: South America smart grid annual forecast (by segment)         | 32 |
| Table 3.4: South America smart grid annual forecast data (\$m)            | 32 |
| Figure 3.6: South America smart grid annual forecast (by country)         | 33 |
| Table 3.5: South America smart grid annual forecast (by country, \$m)     | 33 |
| Figure 3.7: South America AMI annual forecast (units)                     | 34 |
| Table 3.6: South America AMI annual forecast (units (m)                   | 34 |
| Figure 3.8: South America near-term annual AMI deployments                | 35 |
| Table 3.7: South America near-term annual AMI deployments (units)         | 35 |
| Figure 3.9: AMI penetration % by country                                  | 36 |
| Figure 4.1: T&D losses at Brazilian utilities                             | 40 |
| Table 4.1: Brazil smart grid indicators                                   | 41 |
| Table 4.2: Brazil smart grid regulatory environment                       | 42 |
| Table 4.3: Updates on leading utilities in Brazil                         | 43 |
| Figure 4.2: Brazil smart grid cumulative forecast                         | 48 |
| Table 4.4: Brazil smart grid cumulative forecast data (\$m)               | 48 |
| Table 5.1: Colombia smart grid indicators                                 | 51 |
| Table 5.2: Colombia smart grid regulatory environment                     | 52 |
| Table 5.3: Updates on leading utilities in Colombia                       | 53 |
| Figure 5.1: Colombia smart grid cumulative forecast                       | 55 |
| Table 5.4: Colombia smart grid cumulative forecast data (\$m)             | 55 |
| Table 6.1: Chile smart grid indicators                                    | 58 |
| Table 6.2: Chile smart grid regulatory environment                        | 59 |
| Table 6.3: Updates on leading utilities in Chile                          | 60 |
| Figure 6.1: Chile smart grid cumulative forecast                          | 62 |



## List of Figures and Tables (cont.)

|   |     |
|---|-----|
| Table 6.4: Chile smart grid cumulative forecast data (\$m)      | 62  |
| Table 7.1: Argentina smart grid indicators                      | 65  |
| Table 7.2: Argentina smart grid regulatory environment          | 66  |
| Table 7.3: Updates on leading utilities in Argentina            | 67  |
| Figure 7.1: Argentina smart grid cumulative forecast            | 69  |
| Table 7.4: Argentina smart grid cumulative forecast data (\$m)  | 69  |
| Table 8.1: Peru smart grid indicators                           | 72  |
| Table 8.2: Peru smart grid regulatory environment               | 73  |
| Table 8.3: Updates on leading utilities in Peru                 | 74  |
| Figure 8.1: Peru smart grid cumulative forecast                 | 75  |
| Table 8.4: Peru smart grid cumulative forecast data (\$m)       | 75  |
| Table 9.1: Ecuador smart grid indicators                        | 78  |
| Table 9.2: Ecuador smart grid regulatory environment            | 79  |
| Table 9.3: Updates on leading utilities in Ecuador              | 80  |
| Figure 9.1: Ecuador smart grid cumulative forecast              | 81  |
| Table 9.4: Ecuador smart grid cumulative forecast data (\$m)    | 81  |
| Table 10.1: Uruguay smart grid indicators                       | 84  |
| Table 10.2: Uruguay smart grid regulatory environment           | 85  |
| Table 10.3: Updates on leading utilities in Uruguay             | 86  |
| Figure 10.1: Uruguay smart grid cumulative forecast             | 87  |
| Table 10.4: Uruguay smart grid cumulative forecast data (\$m)   | 87  |
| Table 11.1: Paraguay smart grid indicators                      | 90  |
| Table 11.2: Paraguay smart grid regulatory environment          | 91  |
| Table 11.3: Updates on leading utilities in Paraguay            | 92  |
| Figure 11.1: Paraguay smart grid cumulative forecast            | 93  |
| Table 11.4: Paraguay smart grid cumulative forecast data (\$m)  | 93  |
| Table 12.1: Venezuela smart grid indicators                     | 96  |
| Table 12.2: Venezuela smart grid regulatory environment         | 97  |
| Table 12.3: Updates on leading utilities in Venezuela           | 98  |
| Figure 12.1: Venezuela smart grid cumulative forecast           | 99  |
| Table 12.4: Venezuela smart grid cumulative forecast data (\$m) | 99  |
| Table 13.1: Bolivia smart grid indicators                       | 102 |
| Table 13.2: Bolivia smart grid regulatory environment           | 103 |

## List of Figures and Tables (cont.)

|  |     |
|--|-----|
| Table 13.3: Updates on leading utilities in Bolivia                      | 104 |
| Figure 13.1: Bolivia smart grid cumulative forecast                      | 105 |
| Table 13.4: Bolivia smart grid cumulative forecast data (\$m)            | 105 |
| Figure 14.1: Market share of leading AMI metering communications vendors | 106 |
| Figure 14.2: Local vendors   | 107 |
| Table 14.1: Top South American smart grid vendors                        | 108 |
| Table 14.2: Top international metering vendors                           | 109 |
| Table 14.3: Acquisitions by Chinese companies                            | 111 |
| Table 14.4: Top international telecom players                            | 111 |
| Table 14.5: Top international grid vendors                               | 112 |
| Table 15.1: List of Brazilian utilities                                  | 113 |
| Table 15.2: List of Chilean utilities                                    | 115 |
| Table 15.3: List of Argentine utilities                                  | 116 |
| Figure 15.1: South America smart grid focus                              | 120 |
| Table 15.4: Investment in five key smart grid segments                   | 121 |
| Figure 15.2: Global smart grid activity                                  | 122 |
| Figure 15.3: Cumulative smart grid investment 2020-2029 (global regions) | 123 |
| Figure 15.4: Annual smart grid investment – global share 2020 & 2029     | 123 |
| Table 15.5: Global smart grid drivers and activity                       | 124 |

**Order Form:**  
**South America Smart Grid: Market Forecast (2020 – 2029)**

Pricing

Single user – \$3,750 | Enterprise license – \$5,400

*Clients purchasing a single user license are limited to one user for this report. The enterprise license allows all employees within a single organization to view the report. Any forwarding or sharing of the report to others who have not paid for it is strictly forbidden.*

**Email orders:** Two options: (a) Fill out and scan the sheet below; or (b) Email us a request for a secure link to pay by credit card (specifying single user or enterprise license). Please email orders to **ben.gardner@northeast-group.com**

**Telephone:** We can be reached at **+1.202.538.0848**. Please have all of the information below ready to expedite your order.

**Customer information**  SINGLE USER  ENTERPRISE LICENSE

|           |          |             |         |
|-----------|----------|-------------|---------|
| NAME      | POSITION | COMPANY     |         |
| ADDRESS   |          |             |         |
| CITY      | STATE    | POSTAL CODE | COUNTRY |
| TELEPHONE |          | EMAIL       |         |

**Credit card information** Card type:  VISA  MASTERCARD  AMERICAN EXPRESS  DISCOVER

|                        |                 |             |         |
|------------------------|-----------------|-------------|---------|
| CARD NUMBER<br>CV CODE | EXPIRATION DATE |             |         |
| CARDHOLDER'S NAME      | SIGNATURE       | DATE        |         |
| BILLING ADDRESS        |                 |             |         |
| CITY                   | STATE           | POSTAL CODE | COUNTRY |

*By purchasing this report I agree to abide by the following terms and conditions: 1. Single-user license - use of this report is restricted to one individual. 2. Enterprise license – use of this report is restricted to individuals within a single enterprise or organization. I agree not to forward or share this report to others who have not paid for its use.*