

MAJOR EVENT RESPONSE

Report for the Ontario Energy Board

ABSTRACT

THIS REPORT CONTAINS INFORMATION FOR A MAJOR EVENT THAT IMPACTED RELIABILITY ON FRIDAY, DECEMBER 23, 2022, IN GRANDBRIDGE ENERGY INC.'S DISTRIBUTION SERVICE AREA. THE CONTENTS OF THE REPORT ARE CONSISTENT WITH REPORTING AND RECORD KEEPING REQUIREMENTS FOR SYSTEM RELIABILITY PER EB-2015-0182.

OEB FILING 2.1.4.2.10

Prepared By: GrandBridge Energy Inc.

Date: Monday, February 6, 2023



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Introduction

Effective May 2, 2022, Energy+ Inc. (Energy+) amalgamated with Brantford Power Inc. (Brantford Power) to form a corporation under the name GrandBridge Energy Inc. (GrandBridge Energy or GBE). GrandBridge Energy delivers safe and reliable electricity to more than 111,754 customers in the City of Brantford, the City of Cambridge, the County of Brant and the Township of North Dumfries. The team provides safe and reliable energy solutions that are strengthened by an unwavering commitment to service excellence.

On Friday, December 23, 2022, Grand Bridge Energy Inc. experienced its second Major Event as the result of the December 2022 North American winter storm.

Prior to the Event

Did the distributor have any prior warning that the Major Event would occur?

Yes.

On December 20, 2022, Environment Climate Change Canada (ECCC) issued a Weather Briefing forecasting inclement weather on December 23-25, 2022. The storm was forecasted to affect all of southern Ontario and large portion of northern Ontario beginning Thursday, December 22 through to at least Saturday, December 24. The briefing included threats of significant snowfall, strong winds, blowing snow, rain as well as icing and cold temperatures. At the time of the briefing, there was a fair amount of uncertainty regarding specific timing and snow/rain/wind intensities. Regardless of these uncertainties, high impacts were expected to occur.

2. If the distributor did have prior warning, did the distributor arrange to have extra employees on duty or on standby prior to the Major Event beginning?

Yes.

GBE initiated emergency response preparation and advanced resource planning during the week of December 19th, 2022. On Thursday, December 22, GBE finalized the arrangements that ensured extra employees were available to respond from December 23 to 25, 2022.

3. If the distributor did have prior warning, did the distributor issue any media announcements to the public warning of possible outages resulting from the pending Major Event?

Yes.

GBE issued two (2) messages to the public on December 22, 2022, through its social media platforms (Facebook and Twitter) warning of a forecasted winter storm, possible outages resulting from the storm, emergency preparation tips and powerline safety messages.

GrandBridge Energy @GrandBridgeNRG · Dec 22, 2022

ALERT! Stormy weather is heading our way- freezing rain, snow, high winds. Watch for downed trees & powerlines. Crews are ready to respond 24/7 to outages. You can get prepared now: bit.ly/3VINOoh #Brantford #BrantCounty #Cbridge #NorthDumfries #ONstorm

Figure 1. GBE Public Message #1 Dec 22, 2022

Figure 2. GBE Public Message #2 Dec 22, 2022

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4. Did the distributor train its staff on the response plans to prepare for this type of Major Event? Yes.

GBE has a documented Emergency Plan that specifies duties and responsibilities of GBE's employees during an emergency to ensure effective response for this type of Major Event. The emergency personnel who are involved in the power restoration are trained to perform their responsibilities.

Additionally, GBE Operations employees are regularly placed on-call or on-standby as part of their regular duties, and therefore are proficient to respond in the event of power outages including Major Event days. GBE Communication employees are proficient in updating website, social media platforms, liaising with local media and directing customers as necessary, during major event situations.

During the Major Event

 Please identify the main contributing Cause of the Major Event as per the table in section 2.1.4.2.5 of the Electricity Reporting and Record Keeping Requirements. Please provide a brief description of the event (i.e. what happened?).

The main contributing cause of the Major Event was Adverse Weather (Cause Code 6). GBE experienced three (3) outages in North Dumfries and one (1) outage in Brantford, of which the largest outage was due to adverse weather with galloping lines in the town of Ayr.

2. Was the IEEE Standard 1366 used to derive the threshold for the Major Event?

Yes, the IEEE Standard 1366 (2012) was used to derive the threshold that would establish if December 23, 2022 would be a Major Event Day. GBE also performed a qualitative analysis based on the OEB's questions to determine if the event can be considered a Major Event.

The IEEE 1366-2012 Standard provides a statistical method of studying reliability events. A Major Event Day is a day which the daily system SAIDI (System Average Interruption Duration Index) exceeds a threshold value, designated as T-med. The SAIDI index is used as the basis of this definition since it leads to consistent results regardless of the utility size and is a good indicator of operational and design stress. Data used for SAIDI is based on five (5) sequential years and includes days that had an interruption, so a SAIDI/Day value can be used to calculate T-med.

The GBE T-med value as calculated in accordance with the IEEE 1366-2012 standard is shown below in Table 1.0:

Table 1.0 GBE T-med Calculations

| Parameter | Value |
|---|-------|
| α = Average [In(Daily SAIDI)] 2017-2021 | -3.49 |
| β = Standard Deviation (α) | 2.00 |
| T-med = $e^{(\alpha+2.5\beta)}$ | 4.50 |

The T-med value of 4.50 indicates that any outage event with reliability statistics exceeding this figure would be deemed to be a Major Event. The table below shows the Daily SAIDI value calculated for December 23, 2022.

Table 2.0 Calculation of Daily SAIDI Value

| Day | Day Customer Outage (Minutes) | | Daily SAIDI | |
|---------------------------|-------------------------------|---------|-------------|--|
| Friday, December 23, 2022 | 955,782 | 111,754 | 8.55 | |

The calculated value for December 23, 2022, is **8.55** and is greater than the T-med threshold value of **4.50**. Therefore, this specific day was deemed to be a Major Event.

3. When did the Major Event begin (date and time)?

Date: Friday, December 23, 2022

Time: 7:44 EDT

4. Did the distributor issue any information about this Major Event, such as estimated times of restoration, to the public during the Major Event? If yes, please provide a brief description of the information. If no, please explain.

Yes.

When known, the Estimated Times of Restoration (ETRs) were issued throughout the Major Event through GBE's public-facing Outage Map for the Cambridge, North Dumfries, and Brant County areas. The Outage Map on the GBE website remained accessible throughout the Major Event. The updates were posted on the GBE (former Energy+) home page via a highly visible Alert Banner.

The updates on the Brantford outages were regularly communicated via the legacy Branford Power website. The Brantford service area has not yet been incorporated in the GBE's public-facing Outage Map following the merger of Brantford Power and Energy+ on May 2, 2022.

GBE also sent notifications and status updates on all outages through its social media channels, predominantly through Facebook (22) and Twitter (18). Two videos were posted to the GBE YouTube channel. The metrics on social media and website results for December 23, 2022, are attached in Appendix A.

For each outage in the Cambridge, North Dumfries, and Brant County areas, GBE updated the Outage Map system when the outage was first identified and provided updates depending on the scale of the outage. For each outage in the Brantford area, the legacy website was updated with an outage notification including the location and updates on the restoration.

In total, GBE released 19 updates to the public-facing Outage Map, shown in Appendix B and four (4) updates made to the legacy Brantford Power Inc. website as the result of the Major Event on December 23, 2022.

5. How many customers were interrupted during the Major Event? What percentage of the distributor's total customer base did the interrupted customers represent?

There was a total of 22,315 unique customers that were impacted during the Major Event. This represents 20% of GBE total customer base of 111,754.

6. How many hours did it take to restore 90% of the customers who were interrupted?

It took 7 hours and 30 minutes to restore power to 90% of customers impacted by the Major Event.

| 7. | Were there any outages associated with Loss of Supply during the Major Event? If so, please |
|----|---|
| | report on the duration and frequency of Loss of Supply outages. |

Yes.

There was one outage during the Major Event associated with Loss of Supply lasting 7 hours and 6 minutes. The power was restored by isolating the normal supply from Hydro One Network Inc. (HONI) and back feeding with another GBE feeder.

8. In responding to the Major Event, did the distributor utilize assistance through a third-party mutual assistance agreement with other utilities? If yes, please provide the name of the utilities who provided the assistance.

No.

9. Did the distributor run out of any needed equipment or materials during the Major Event? If so, please describe the shortages.

No.

GBE had all the necessary materials and equipment to perform the repairs on the distribution system during the Major Event.

After the Major Event

1. What actions, if any, will be taken to be prepared for, or mitigate, such Major Events in the future?

Historically, GBE has been proactive in mitigating the risk of emergency by applying the appropriate distribution system designs, equipment specifications, deploying grid modernization technology, planned system maintenance, staff training and utility operating practices. The documented Emergency Plan enables GBE staff to effectively assess and respond to any given emergency.

The immediate action taken following the Major Event:

GBE conducted debrief meetings with the teams involved in the response during the Major Event. The focus of the debrief meetings was on the lessons-learned and areas of improvement. In the post-event analysis, GBE determined that the response to the Major Event was conducted in a safe, effective, and controlled manner in accordance with the established operating practices and procedures.

Future actions arising from the Major Event:

- Incorporate Brantford's distribution area into GBE's public-facing Outage Map to provide Brantford customers with instant access to outage status information.
- Continue deploying grid modernization technology (i.e. automated reclosers, fault indicators, etc.) to increase GBE's operational effectiveness during the Major Events.

Appendix A - GBE Social Media Analytics

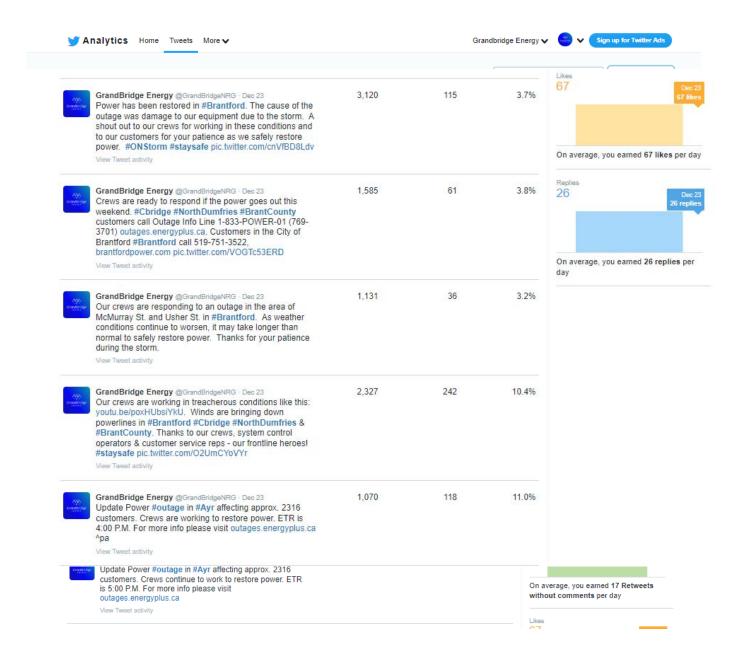
| Terminology | | Total | |
|---|---|--------------------|--|
| Impressions Number of times users saw the Tweets, Posts, Videos Twitter, Facebook, YouTube combined | | 57,230 Impressions | |
| Engagements | Total times users interacted with Tweets and posts (clicks, retweet, replies, follows, likes, views). | 7,057 Engagements | |
| Engagement Rate | Number of engagements divided by the total impressions. | 12.3% | |

GBE Twitter Analytics - December 23, 2022

Number of Posts: 18

Post Reach: 32,300 impressions

Engagements: 2,539



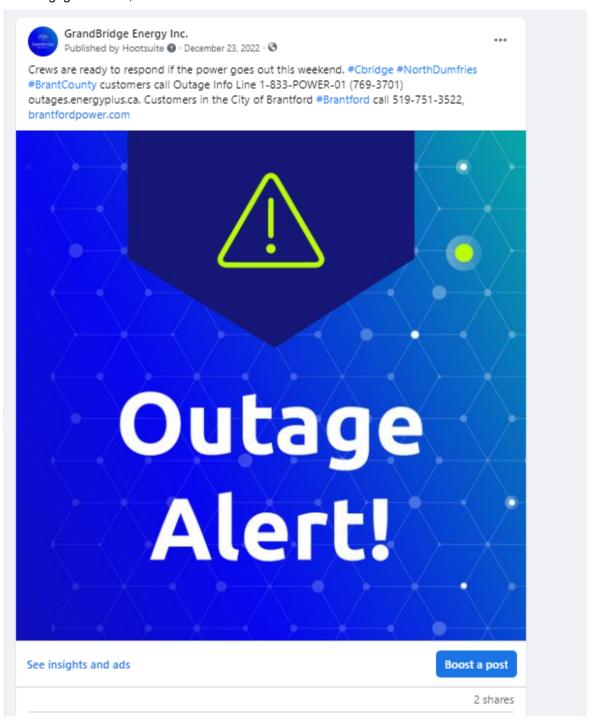
| dag. well-ray | GrandBridge Energy @GrandBridgeNRG · Dec 23 Update Power #outage in #Ayr affecting approx. 2458 customers. Crews are working. ETR is now 4:00 P.M. For more info please visit outages.energyplus.ca ^pa | 1,002 | 104 | 10.4% |
|------------------------|---|--------|-----|-------|
| | View Tweet scrivity | | | |
| teredit day Terlier | GrandBridge Energy @GrandBridgeNRG · Dec 23 All power has now been restored in #Cbridge. If you are still without power, please call 1-833-POWER-01 ^pa View Tweet activity | 804 | 16 | 2.0% |
| | | | | |
| ODD Parties of the | GrandBridge Energy @GrandBridgeNRG - Dec 23 Winter Storm Warnings remain in effect for our entire service territory. High winds, trees contacting powerlines cause outages. System Control, additional crews, customer service teams are ready to respond. #BeSafe #BePrepared #Cbridge #Brantford #BrantCounty #NorthDumfries pic.twitter.com/Zz7V2kyuB1 View Tweet activity | 860 | 15 | 1.7% |
| (TO) | GrandBridge Energy @GrandBridgeNRG - Deo 23 Power #outage in #Ayr affecting approx. 2458 customers. Crews have been dispatched. ETR 2:30 P.M. For more info please visit outages.energyplus.ca *pa View Tweet activity | 1,638 | 192 | 11.7% |
| Accessor | GrandBridge Energy @GrandBridgeNRG - Dec 23 Update power #outage in #Cbridge affecting approx. 289 customers. Crews are working ETR is now 4:00 P.M For more info please visit outages.energyplus.ca ^pa View Tweet activity | 964 | 87 | 9.0% |
| AND STREET SAFE | GrandBridge Energy @GrandBridgeNRG - Dec 23 Power #outage in #Cbridge affecting approx. 289 customers. Crews are on site. ETR 12:00 P.M. For more info please visit outages, energyplus.ca ^pa View Tweet activity | 13,325 | 443 | 3.3% |

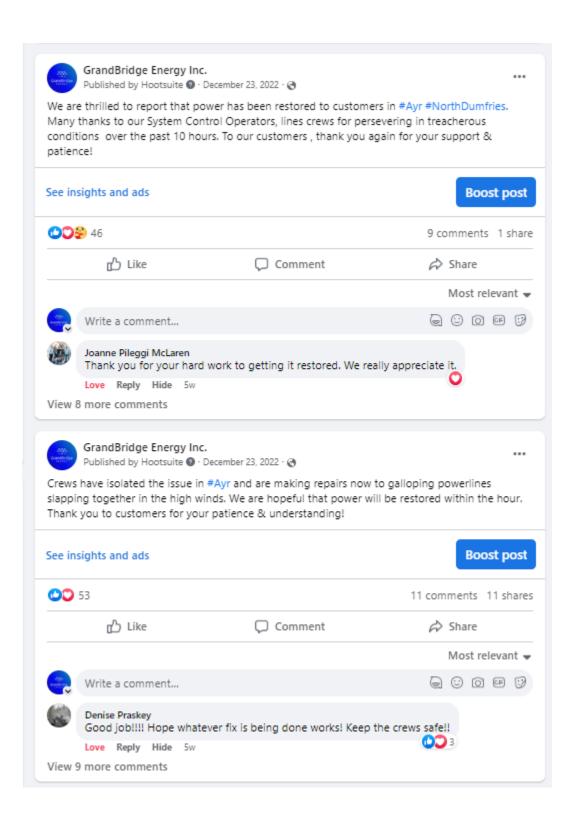
GBE Facebook Analytics - December 23, 2022

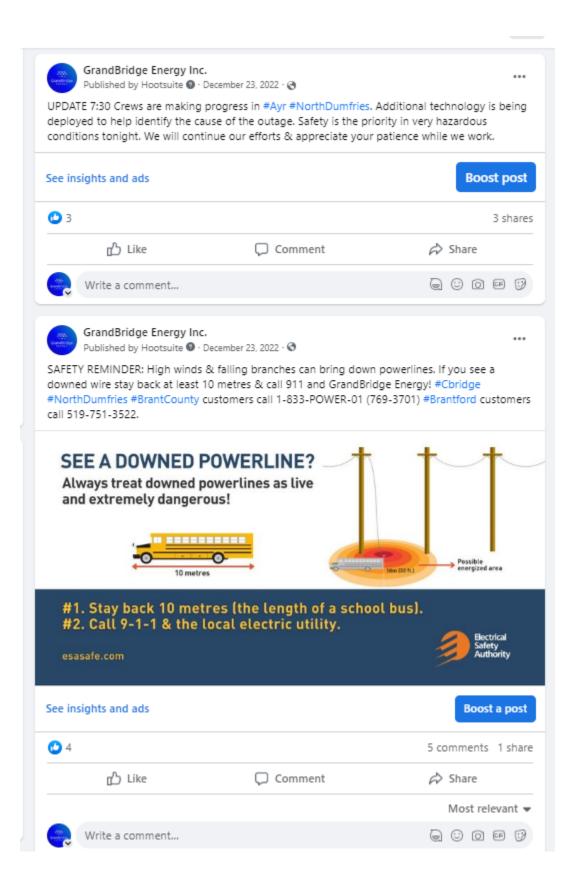
Number of Posts: 22

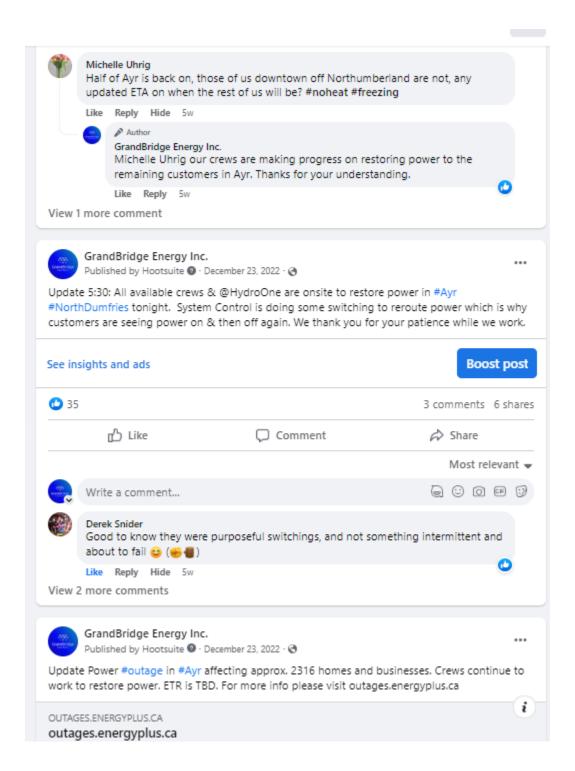
Post Reach: 24,675 impressions

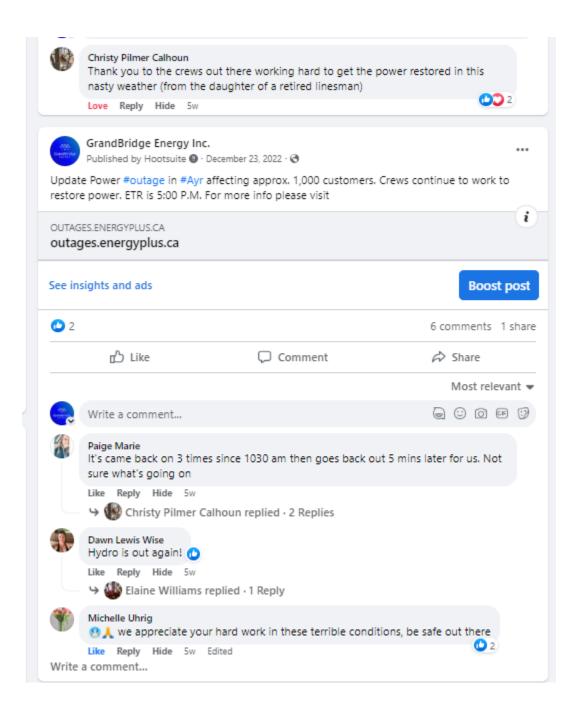
Engagements: 4,230











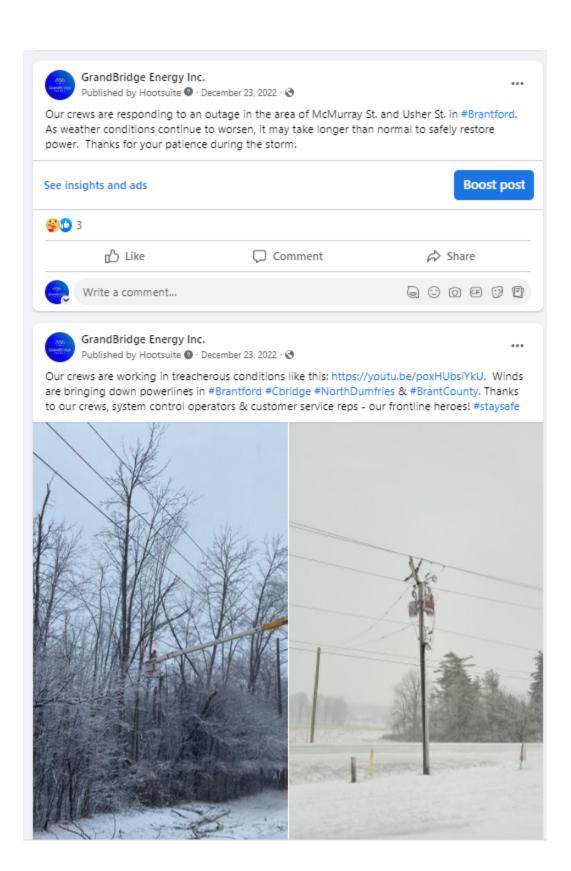


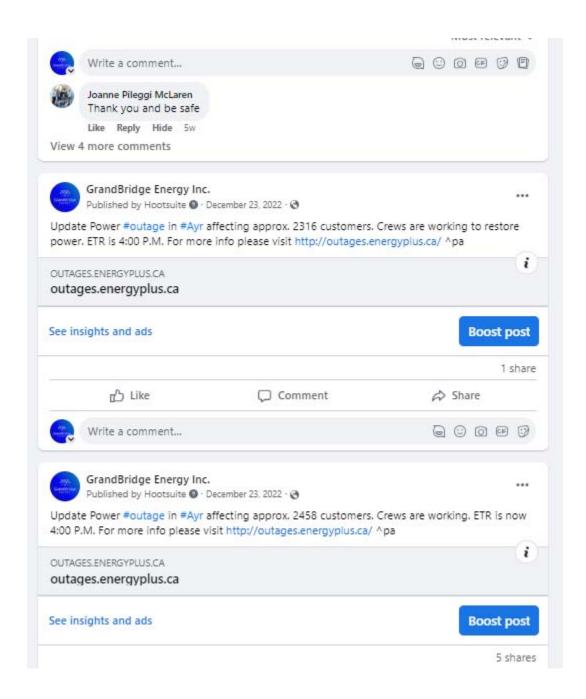
Power has been restored in #Brantford. The cause of the outage was damage to our equipment due to the storm. A shout out to our crews for working in these conditions and to our customers for your patience as we safely restore power. #ONStorm #staysafe

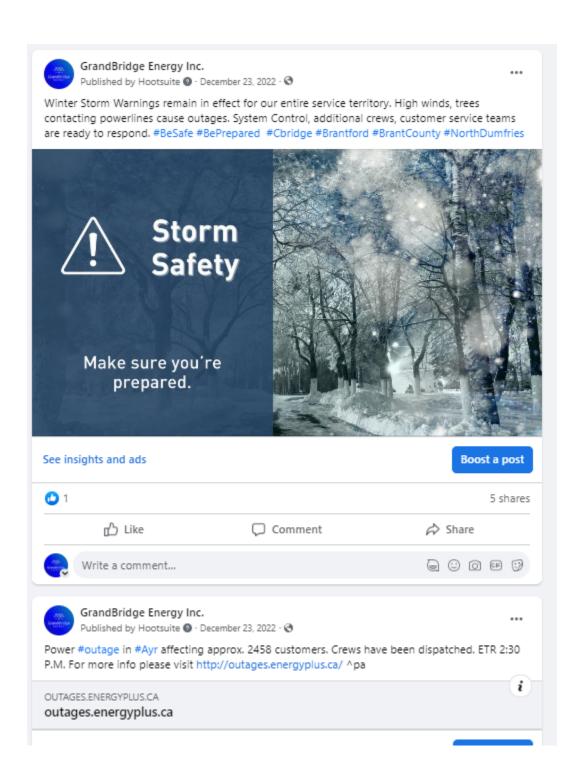


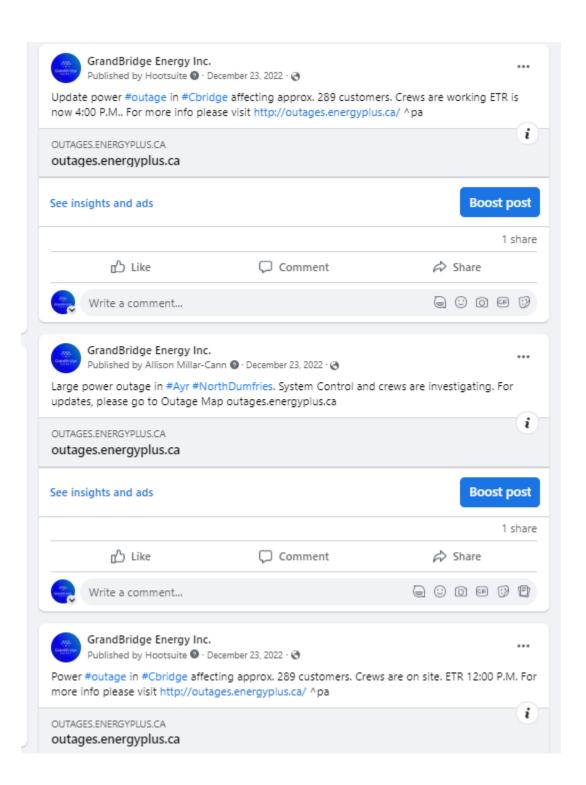


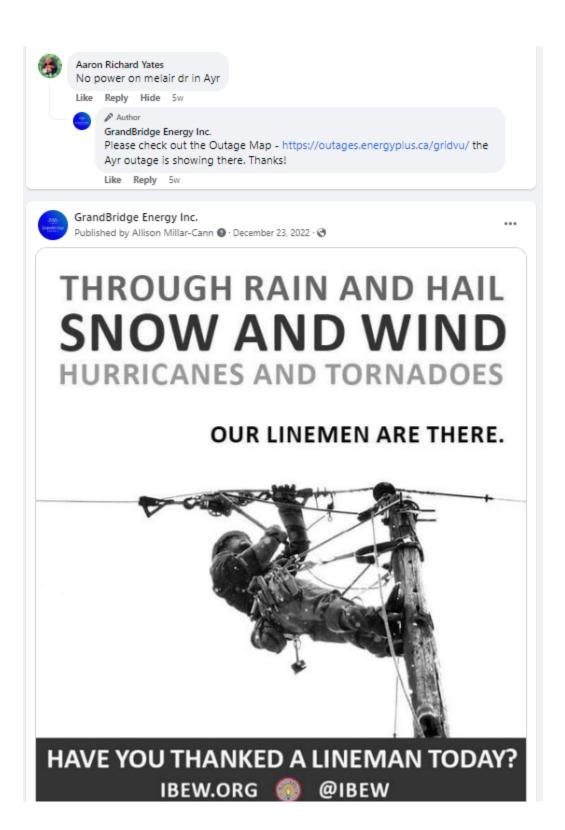
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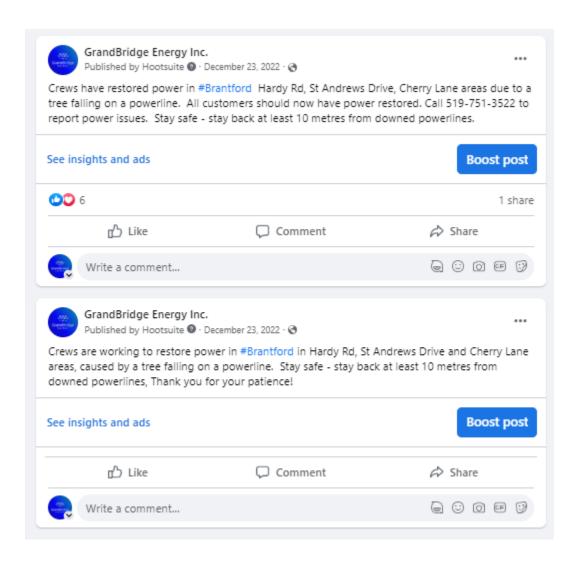








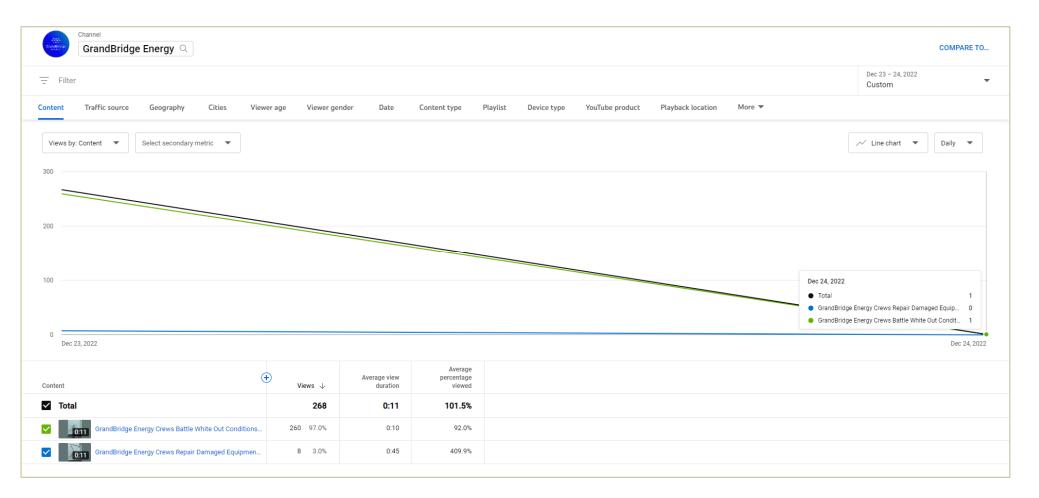




GBE YouTube Analytics - December 23, 2022

Number of Posts: 2

Post Views: 268

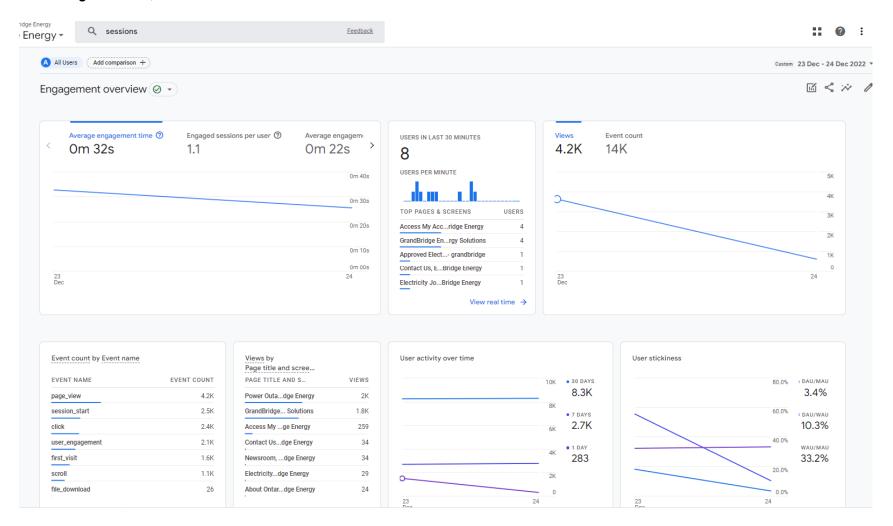


Website Analytics - December 23, 2022

GBE Landing Site Traffic Statistics

Total Sessions/visits: 2,493

Total Page Views: 4,225

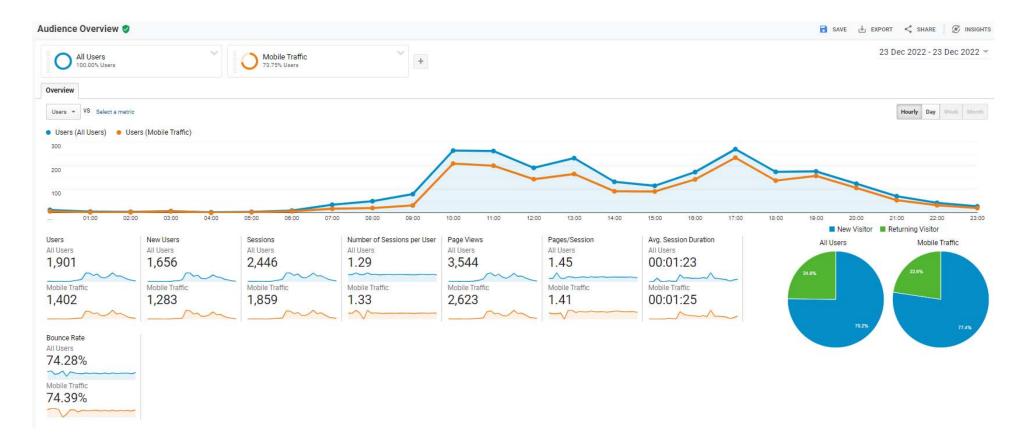


Legacy Energy+ Website Traffic Statistics

Total Sessions/visits: 3,446

Total Page Views: 3,544

Traffic Peak:269 users @ 5:00PM EDT on December 23, 2022

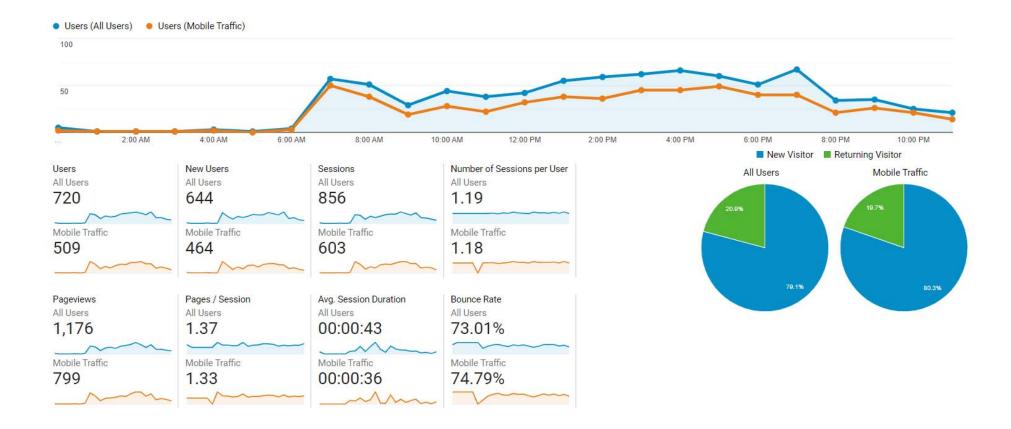


Legacy BPI Website Traffic – Statistics

Total Sessions/visits: 856

Total Page Views: 1,176

Traffic Peak: 67 users @ 7 PM EDT on December 23, 2022



Appendix B - GBE Outage Map Updates Statistics

| - France Commence | | |
|-------------------|-----------------------------------|--|
| Outage # | Update Date & Time (EDT) | |
| E6396 | Friday, December 23, 2022 @ 9:58 | |
| E6397 & E6416 | Friday, December 23, 2022 @ 10:24 | |
| E6396 | Friday, December 23, 2022 @ 10:47 | |
| E6397 | Friday, December 23, 2022 @ 11:31 | |
| E6397 | Friday, December 23, 2022 @ 11:39 | |
| E6416 | Friday, December 23, 2022 @ 12:20 | |
| E6397 | Friday, December 23, 2022 @ 13:11 | |
| E6416 | Friday, December 23, 2022 @ 13:24 | |
| E6416 | Friday, December 23, 2022 @ 13:27 | |
| E6416 | Friday, December 23, 2022 @ 13:28 | |
| E6397 | Friday, December 23, 2022 @ 16:31 | |
| E6397 | Friday, December 23, 2022 @ 16:51 | |
| E6397 | Friday, December 23, 2022 @ 16:54 | |
| E6416 | Friday, December 23, 2022 @ 17:11 | |
| E6416 | Friday, December 23, 2022 @ 17:14 | |
| E6397 | Friday, December 23, 2022 @ 17:30 | |
| E6416 | Friday, December 23, 2022 @ 19:36 | |
| E6416 | Friday, December 23, 2022 @ 19:40 | |
| E6416 | Friday, December 23, 2022 @ 20:57 | |
| | | |