



# U.S. VIRGIN ISLANDS ECONOMIC IMPACT OF THE ATLANTIC BASIN REFINING OPERATING AGREEMENT

Prepared by  
Government of the U.S. Virgin Islands  
Bureau of Economic Research  
November 2014



## U.S. Virgin Islands Economic Impact of the Atlantic Basin Refining Operating Agreement

### Executive Summary

Page | 1

The U.S. Virgin Islands Bureau of Economic Research has prepared an Economic Impact Model report to project the likely economic impact of the Operating Agreement by and among the Government of the Virgin Islands ("Government"), Atlantic Basin Refining, Inc., and Atlantic Basin Refining Holdings, LLC ("ABR") for the initial phases of the rehabilitation and restart of the HOVENSA, LLC ("HOVENSA") oil refinery, which closed in February 2012.

The selection of ABR was the result of a sales process by the owners of HOVENSA, LLC, Hess Oil Virgin Islands Corporation and Petroleos de Venezuela, S.A.-Virgin Islands, that was managed by a third party, Lazard Ltd. The sales process involved contacting over 140 potential interested parties, inclusive of international refiners, U.S. refiners, private equity firms, global trading firms, national oil companies and other interested parties. At the conclusion of the process, ABR was the only entity that submitted a bid to restart the oil refinery and was introduced to the Government in August 2014 as the successful bidder. Since 2010, eight refineries, not including the facility on St. Croix, have closed in North America.

The economic impact analysis takes into account expenditures associated with the rehabilitation, construction and restart of the refinery in the first 36 months following ABR's purchase of the refinery, and concludes that the proposed Operating Agreement may generate over \$1 billion in direct economic impact on the Virgin Islands economy during that period, primarily on the island of St. Croix.

The prime focus of the economic impact pertains to the Operating Agreement and its likely effects on both employment and general economic growth during the first 36 months after the closing of the refinery sale, when the new owners are required to perform an engineering study, raise capital to finance the reconfiguration of the facility and restart refinery operations. This initial engineering, financing, construction, and restart phase is expected to cost approximately \$1.1 billion, of which half--\$550 million, primarily in the form of compensation, training, and raw materials expenditures—is expected to be sourced directly in the Territory.

That estimated \$550 million of local expenditures, when adjusted for Territorial based personal consumption expenditures, amounts to approximately \$275 million in direct spending, potentially yielding an estimated \$1 billion in total economic impact on the Virgin Islands economy over the three-year period, as illustrated in Appendix 1. The injection of this estimated \$1 billion into the local economy, could create over 2,000 jobs when multiplier effects are considered, significantly mitigating many of the adverse economic effects of the refinery closure.

Although the focus of this analysis is the economic impact of the first 36 months of the Operating Agreement, it is important to emphasize that the long-term economic benefits are substantial. Assuming that the refinery successfully restarts at the required baseline level, the minimum of 600 full-time equivalent employees and contractors would earn compensation of approximately \$100 million annually, having an estimated direct economic impact of over \$175 million



## U.S. Virgin Islands Economic Impact of the Atlantic Basin Refining Operating Agreement

Page | 2

annually when adjusted to include personal consumption expenditures—all this in addition to the direct revenues obtained by the Government in the form of mandated Fixed and Variable payments from ABR.

### **Economic Impact of the HOVENSA Refinery Closure**

The estimated \$580 million shortfall in economic output resulting from the HOVENSA refinery closure was derived primarily from the loss in income attributed to the termination of over 2,000 refinery employee and subcontractor positions. After announcing the refinery closure in January 2012, HOVENSA retained a limited staff of the employees and subcontractors to operate the facility and perform routine maintenance, while the majority of jobs were terminated. The incomes of many of these former refinery employees and subcontractors who either found local employment, received company funded redundancy payments, or received unemployment benefits, did not fully offset the loss in incomes realized before the refinery closure.

Beginning in January 2013, the Territory-wide unemployment rate reached 13.7 percent, with a high of 17.8 percent on St. Croix, as employment in the manufacturing, construction and services sectors declined due to the refinery closure. Unemployed workers on St. Croix continue to bear the major economic brunt of the loss in employment in the Territory. The current unemployment rate for St. Croix is averaging 14.6 percent for 2014, slightly lower than the 15.1 percent in 2013, as reported by the U.S. Virgin Islands Department of Labor. The decline in annual territorial population, employment by industry sector and income

related economic indicators, listed in Appendix 3, show the continuing economic, financial and fiscal impact of the HOVENSA refinery closure beginning in 2012.

In response to an application submitted by the Virgin Islands Department of Labor, the U.S. Department of Labor in 2012 awarded the Virgin Islands a \$7.8 million National Emergency Grant to assist the more than 1,200 former HOVENSA employees affected by the refinery closure. The grant program primarily focused on dislocated HOVENSA employees who remained in the Territory, providing job training and retraining.

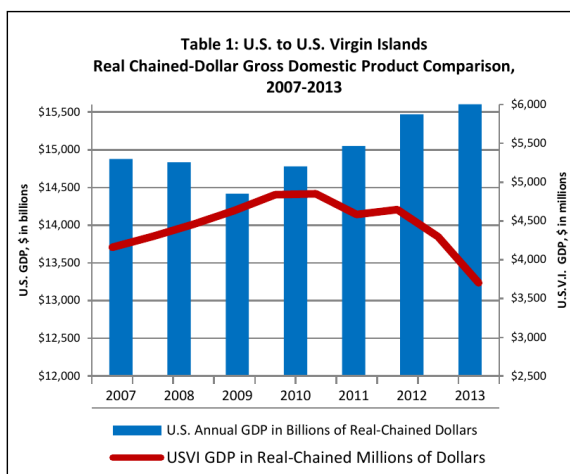
Current economic indicators, listed in both Appendix 3 and 4, show a significant loss in economic output as employment remains sluggish in the Virgin Islands. While the tourism and trade and business and professional services sectors are growing moderately, the U.S. Virgin Islands 2012 Economic Census reported that the closure of the refinery devastated the Territory's industrial, manufacturing and construction sectors. As employment conditions in the U.S. continue to improve, Virgin Islanders are still experiencing high unemployment levels for a third year in a row as our local economy recovers from the refinery closure and the aftermath of the global recession.

The high level of local unemployment is the primary source of diminishing economic growth fueled by reduced expenditures in the Virgin Islands, as total employee compensation, included in the Territorial Gross Domestic Product ("GDP") income estimates as detailed by type of expenditure category in Appendix 4, declined in 2012 after the refinery closure. Table 1 below compares the Virgin Islands and U.S. GDP from 2007 to 2013.



## U.S. Virgin Islands Economic Impact of the Atlantic Basin Refining Operating Agreement

Page | 3



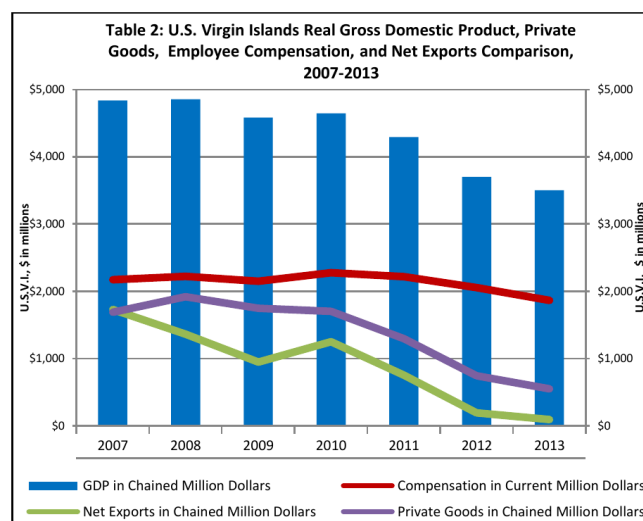
Real Territorial GDP, the broadest view of the economy's output, adjusted for prices, decreased by 13.8 percent in 2012 followed by a 5.4 percent decline in 2013, from reduced refined petroleum product exports resulting from the refinery closure.

The economic impact of the refinery closure is evident in the Territorial GDP estimates. In nominal or current dollars, the Virgin Islands economy declined by 12 percent in 2013 from 2011, when the refinery was fully operational, amounting to an economic expenditures decline of more than \$500 million. The loss in high wage employment attributable to the refinery manufacturing, construction and related services sectors has been devastating, as the economic effect of the refinery closure impacted employment in multiple sectors in the Territory, including the government sector. Unemployment increased in the majority of private and public sectors after the refinery closure, as both business and government tax revenues declined relative to pre-recession levels.

Declining economic growth presented in Territorial GDP estimates underscores the effect the refinery closure has had on the

Virgin Islands economy. Since 2010, when real Territorial GDP grew by 1.3 percent, GDP has declined by an average of 10 percent annually. Sources of the decline in Territorial GDP are refined petroleum product exports, crude oil imports, private fixed investment expenditures (including inventory investment), and consumer spending. While economic growth in the Virgin Islands continues to slowly recover from the refinery closure, the U.S. economy is growing at over 3 percent fueled by lower energy costs and employment growth.

The annual growth in Territorial GDP is compared to the private goods-producing industries, net exports and employee compensation in Table 2. Net exports are exports of goods and services minus the imports and include petroleum, tourism and rum manufacturing goods and services.



The decline in Territorial GDP and private goods producing industries appears to coincide with the decrease in net exports, despite improvements in both tourism and rum manufacturing export sectors. Both personal consumption expenditures and employee compensation, including private

## U.S. Virgin Islands Economic Impact of the Atlantic Basin Refining Operating Agreement

and public, remained constant from 2007 to 2012 until employee compensation began to decline as Territory wide unemployment increased, primarily due to the oil refinery closure.

Page | 4

While tourism conditions are improving, employment opportunities in the Territory continue to be stagnant, as over 6,000 displaced workers remain unemployed. When Territorial GDP peaked in 2007, the Territory-wide unemployment rate was less than 6 percent. As the global recession impacted the Virgin Islands followed by the refinery closure in early 2012, as detailed in Appendix 3, the all islands unemployment rate increased to 11.7 percent in 2012, then to 13.4 percent in 2013, as employment conditions continued to deteriorate in the Territory.

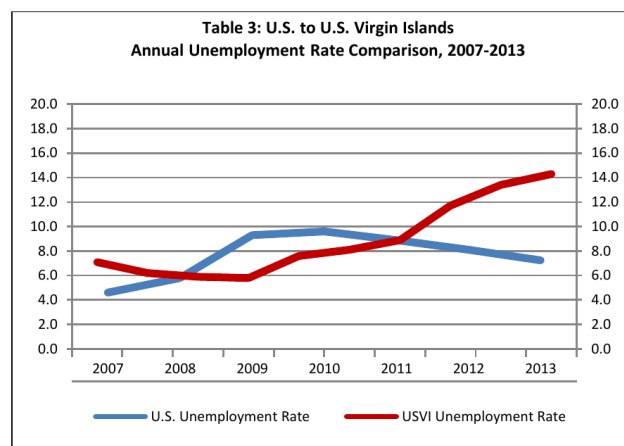
Because the U.S. Virgin Islands are a major Caribbean tourist destination for U.S. travelers, U.S. economic growth impacts the Virgin Islands tourism economy. Achieving sustainable resilient economic development and growth in the Territory is highly dependent on potential U.S. based private investments, as well as increasing tourism expenditures. The proposed expenditures associated with restarting the refinery are needed in order to achieve sustainable economic growth and development in St. Croix and the Territory.

### Impact of Improvement in Employment on Economic Growth Conditions

The \$1 billion estimated direct economic impact associated with the reconfiguration and restart of the refinery, could create over 2,000 positions. The prospect of securing refinery related employment would benefit the over 1,500 unemployed workers on St.

Croix who are actively seeking employment along with the countless number of displaced workers who simply dropped out of the workforce or moved to seek employment elsewhere.

The prerequisites to achieving sustainable economic growth and development for St. Croix and the Territory are clear: increasing investments in human and physical capital are key components to improve economic and employment growth. Economic output and employment derived from the refining and tourism sectors have been impacted by global economic conditions. Table 3 below compares the Virgin Islands unemployment rate to the U.S., from 2007 to 2013.



While the unemployment rate in the Virgin Islands was below the U.S. unemployment rate before the onset of the Great Recession and the change in residency and income-sourcing rules that impacted the Virgin Islands Economic Development Commission beneficiaries, unemployment conditions in the Territory accelerated predominately in the manufacturing, construction and services sectors after the refinery closure. For many terminated workers, redundancy and unemployment benefits, totaling over \$14 million annually, provided income

## U.S. Virgin Islands Economic Impact of the Atlantic Basin Refining Operating Agreement

assistance to help sustain the livelihoods of displaced workers temporarily after the refinery closure. Presently, these sources of income have all been depleted.

Page | 5

The tourism sector is currently showing signs of improvement. Air visitor and cruise passenger arrivals have increased by 4 percent in 2014, building on a strong 7 percent increase in cruise ship passenger arrivals to St. Croix in 2014 to offset a decline in air visitor arrivals. As economic conditions in the Virgin Islands tourism sector continue to improve, both the 2012 Economic Census and Territorial GDP estimates identified positive trends in professional, scientific and technical services, information, health and social services, leisure and hospitality and food services sectors.

As the Virgin Islands economy continues to stabilize, economic growth attributed to the tourism, trade, health and social services, professional, scientific and technical services sectors could provide additional employment; expenditures associated with rehabilitating and restarting the refinery would provide the investment, training and, more importantly, employment for current and displaced refinery workers on St. Croix.

### **Economic Impact of the Atlantic Basin Refining Operating Agreement**

Completion of the proposed engineering, rehabilitation and construction necessary to restart the refinery is anticipated to take approximately 3 years at an estimated cost of \$1.1 billion. The initial engineering phase is expected to take approximately 9 months, and economic improvement resulting from the Operating Agreement is likely to be limited through the third quarter of 2015. However, the estimated \$1.1 billion in costs

associated with the rehabilitation, construction and refinery restart will have a substantial economic impact starting in late 2015 and into 2016. In 2016 and 2017 combined, an estimated \$550 million in expenditures related to the reconfiguration and restart are expected to be sourced locally. Using the five-year average proportion of estimated personal consumer expenditures to total Territorial GDP, presented in Appendix 4, approximately 50 percent of ABR related expenditures sourced locally is anticipated to be spent directly in the Virgin Islands economy.

In addition to the direct economic impact of \$1.1 billion related to the refinery reconstruction, the restart of the refinery has the potential to create an additional \$400 million in indirect economic output, yielding over \$1.5 billion in total economic output, creating over 3,000 jobs and amassing an estimated \$164 million in tax revenues over the initial three year after sale of the refinery to ABR. The multiplier effect will generate employment and economic activity in the manufacturing, construction and refinery service sectors, as well as sectors such as hospitality, food service and others who would indirectly support the restarted refinery.

During the 9-month initial engineering phase, an estimated 20 percent of a proposed \$5 million in contractor compensation expenditures will circulate in the Virgin Islands' economy. Contractor based expenditures of \$1 million in miscellaneous expenses are estimated to be spent directly in the Territory, having a direct \$2 million economic impact, primarily on St. Croix.



## U.S. Virgin Islands Economic Impact of the Atlantic Basin Refining Operating Agreement

Page | 6

After the engineering phase is completed, refinery related expenditures include \$340 million spent on construction equipment and raw materials, much of which will be custom fabricated or sourced outside the Territory. However, construction related compensation expenditures are estimated at approximately \$250 million, much of which will be incurred in the Territory, and training will take place in the Territory starting in the second half of 2016, generating approximately \$10 million per month in economic activity, primarily in the form of salaries. The company expects to spend 36 percent of its 2016 total costs, or approximately \$221 million, directly in the Virgin Islands, as depicted by expenditure function and location in the following table:

### Engineering, Rehabilitation and Construction 2016 Expenditures (in millions)

| Expenditures  | USVI  | Offshore | USVI | Offshore | Total |
|---------------|-------|----------|------|----------|-------|
|               |       |          |      |          |       |
| Compensation  | \$121 | \$125    | 49%  | 51%      | \$246 |
| Training      | \$40  | \$20     | 67%  | 33%      | \$60  |
| Raw materials | \$60  | \$240    | 20%  | 80%      | \$300 |
|               |       |          |      |          |       |
| Total         | \$221 | \$385    |      |          | \$606 |

After adjusting for personal consumption expenditures, the Operating Agreement would have an estimated \$430 million direct economic impact on the overall Territorial economy during 2016, primarily on the island of St. Croix.

Construction is anticipated to be completed during 2017, at which point ABR anticipates maintaining a workforce in excess of 500 employees and 100 contractors to operate the refinery. During 2017, ABR anticipates spending an additional \$100 million on construction equipment and raw materials along with \$120 million in additional employee training, with at least 67 percent

or \$80 million of refinery training related expenditures being sourced directly in the Virgin Islands. Employee and contractor compensation, training, and raw materials expenditures during 2017 will amount to an estimated \$160 million, or 47 percent of the \$340 million in expenditures related to the completion of the rehabilitation and restart of the refinery. The \$160 million of local expenditure will have an estimated \$311 million direct economic impact, and can be split by function and location as presented in the following table:

### Rehabilitation, Construction and Restart 2017 Expenditures (in millions)

| Expenditures  | USVI  | Offshore | USVI | Offshore | Total |
|---------------|-------|----------|------|----------|-------|
|               |       |          |      |          |       |
| Compensation  | \$60  | \$60     | 50%  | 50%      | \$120 |
| Training      | \$80  | \$40     | 67%  | 33%      | \$120 |
| Raw materials | \$20  | \$80     | 20%  | 80%      | \$100 |
|               |       |          |      |          |       |
| Total         | \$160 | \$180    |      |          | \$340 |

Once the refinery restarts, it may take up to a year for the refinery to be fully operational, although it will be fully staffed from the first day of operations. During this phase, a permanent staff of more than 500 full time equivalent employee and 100 contractors will operate the refinery. On an ongoing basis, total compensation for both full time employees and contractors operating the refinery amounts to approximately \$140 million annually, with a minimum of \$105 million, or 75 percent being sourced directly in the Virgin Islands. Annual proposed expenditures by function during operations are presented in the table below and exclude the incremental impact associated with turnaround maintenance, which is expected to occur every three years after the refinery restart. The proposed \$105 million in total worker compensation, when adjusted for Territorial based personal consumption

## U.S. Virgin Islands Economic Impact of the Atlantic Basin Refining Operating Agreement

expenditures, amounting to an estimated additional \$53 million expenditures circulating in the local economy annually and generating well over \$200 million in direct economic output.

Page | 7

### Refinery Restart and Resumption of Operations Phase Expenditures (in millions)

| Expenditures  | USVI  | Offshore | USVI | Offshore | Total |
|---------------|-------|----------|------|----------|-------|
| Compensation  | \$105 | \$35     | 75%  | 25%      | \$140 |
| Training      | \$0   | \$0      | Na   | na       | \$0   |
| Raw materials | \$0   | \$0      | Na   | na       | \$0   |
| Total         | \$105 | \$35     |      |          | \$140 |

Total compensation for both full time employees and contractors amounts to over \$100 million to operate the refinery on an annual basis. The financial modeling of the Operating Agreement takes into account salaries paid at the refinery prior to closure as well as those currently being paid to refinery workers and contractors in the Oil & Gas Industry. ABR is unlikely to allow its employment levels to fall below the 500 employee and 100 contractor thresholds to maintain its baseline operation. An estimated \$32 million in total compensation for contract employees is included in the proposed compensation estimate with \$24 million or 75 percent being sourced directly in the Territory. Of the total \$105 million in annual operating compensation expected on an ongoing basis, at least 84 percent, or \$90 million, is sourced locally, generating \$175 million in direct economic output and is illustrated in Appendix 2.

The estimated \$1 billion direct economic impact is derived from an estimated \$484 million, or 45 percent, of the total expected \$1.1 billion in initial engineering, construction, training, and restart costs being sourced directly in the Virgin Islands.

Total expenditures by function and location for the three year project schedule are presented in the following table:

### Total Atlantic Basin Refining Operating Agreement Expenditures (in millions)

| Expenditures  | USVI  | Offshore | USVI | Offshore | Total   |
|---------------|-------|----------|------|----------|---------|
| Compensation  | \$284 | \$220    | 56%  | 44%      | \$504   |
| Training      | \$120 | \$60     | 67%  | 33%      | \$180   |
| Raw materials | \$80  | \$320    | 20%  | 80%      | \$400   |
| Total         | \$484 | \$600    |      |          | \$1,084 |

Restarting an operational oil refinery has the potential to create critically needed employment opportunities and enhance economic growth conditions for St. Croix, as employment first stabilizes then expands, increasing personal income and fueling economic growth.

The estimated \$220 million in proposed compensation for offshore contractors was adjusted to include an estimated portion of their expenditures being spent locally. As indicated during the engineering phase, offshore contractors located physically on St. Croix spend approximately 20 percent of their compensation directly in the Territory. Over the entire construction phase, this shifts approximately \$60 million in offshore compensation and miscellaneous expenses to local expenditures. As a result, approximately \$550 million in proposed total expenditures are sourced directly in the Territory, creating an estimated direct economic impact of over \$1 billion, an additional indirect economic impact of \$400 million, and government revenues of \$164 million. The following table takes into account local estimated expenditures and the potential direct economic impact over the three-year period until the refinery is fully operational:

## U.S. Virgin Islands Economic Impact of the Atlantic Basin Refining Operating Agreement

### Annual Local Atlantic Basin Refining Operating Agreement Expenditures Impact (in millions)

| Expenditures       | 2015 | 2016  | 2017  | 2018  | 2019  |
|--------------------|------|-------|-------|-------|-------|
| Compensation       | 0    | \$120 | \$60  | \$103 | \$81  |
| Training           | 0    | \$40  | \$80  | 0     | 0     |
| Raw materials      | 0    | \$60  | \$20  | 0     | 0     |
| Miscellaneous      | \$1  | \$28  | \$20  | \$18  | \$9   |
|                    | ===  | ===   | ===   | ===   | ===   |
| Total expenditures | \$1  | \$248 | \$180 | \$121 | \$90  |
| Economic impact    | \$2  | \$482 | \$350 | \$235 | \$175 |

Page | 8

The estimated cumulative \$1 billion direct economic impact of compensation, training and raw material expenditures involved in the proposed rehabilitation and restart of the refinery exceeds the \$580 million economic impact of the HOVENSA refinery closure. The estimate assessed the termination of the 2,150 positions. After the 2012 refinery closure, employment has declined as the vast majority of the HOVENSA employees and subcontractors were terminated. The Virgin Islands Department of Labor reported, from April 2012 to August 2014, employment declined by over 2,600 jobs on St. Croix, as HOVENSA and other companies shed local workers.

HOVENSA currently retains 110 employees and 400 subcontractors, although most of the subcontractors have substantially completed the tank cleaning and other facility requirements that have helped mute the full impact of the refinery shut down. Employment at the refinery will continue to decrease as financial conditions related to operating and maintaining the facility deteriorates. Recently released Virgin Islands Department of Labor information indicated manufacturing employment declined by 47 percent after the refinery closure, as illustrated in Appendix 3, and by well over 70 percent since 2008. Securing vital local manufacturing, construction and

refinery related employment by restarting the refinery reverses this downward industry trend.

As noted in the prior section, results from both the Territorial GDP estimates and the Economic Census reflect that a substantial loss in net exports resulting from reduced petroleum product shipments hampered economic growth efforts in the Territory. Real Territorial GDP declined by 25 percent in 2013 from 2010; the year HOVENSA operating revenues started to decrease. Based on the Bureau of Economic Analysis report, the refinery was the Territory's primary economic generator followed by tourism. Restarting the refinery reverses the current decline in economic growth by creating employment, business and potential export revenues from the proposed 300,000 barrel per day refinery production. This proposed refinery production level, stated in the Operating Agreement, is comparable to the level maintained before the refinery closure. Restarting the refinery restores potential revenues received from petroleum product exports; combining these revenues with expenditures from the tourism and the proposed construction projects on St. Croix, would substantially improve employment and economic growth and development conditions.

### Conclusion

The overall economic loss caused by the refinery closure extended well beyond the direct impact on the productive sectors of the Virgin Islands economy, as funding for health, education and social services provided by HOVENSA, LLC simply disappeared. Refinery operations indirectly created additional employment and

## U.S. Virgin Islands Economic Impact of the Atlantic Basin Refining Operating Agreement

Page | 9

stimulated economic activities among local businesses that provided both goods and services, including travel arrangements, hotel accommodations and food, retail, transportation, entertainment, and other business related services. The loss of both direct and indirect St. Croix business and social services impact cannot be overstated.

Restarting the refinery is one critical element in the Government's plan to improve employment opportunities and provide energy security on the island of St. Croix. If successful, ABR's plan to achieve restart will inject more than \$1 billion into the local economy within three years, simultaneously improving employment conditions and spurring long term resilient economic growth and development in the Territory. The employment it brings will help to restore the tax base on St. Croix, and will indirectly spur significant additional economic development on the island.

In addition to economic benefits outlined in this report, a successful re-start of the oil refinery under the Operating Agreement

requires ABR to make Fixed and Variable payments to the Government for the full term of the Agreement. Refer to Appendix 5 for a listing of these and other requirements.

The restart of the refinery is not a panacea for the Territory's economic problems. Additional private and public investments in manufacturing, construction and service sectors beyond the proposed \$1.1 billion in total expenditures required to restart the refinery, are needed.

Private and public investments directed towards improving human and physical capital must be put in place, in order to achieve resilient sustainable long term economic growth and development conditions for both current and future generations of workers on the island of St. Croix and the entire Territory. A restarted, productive refinery can provide a strong economic foundation for those future efforts.



## U.S. Virgin Islands Economic Impact of the Atlantic Basin Refining Operating Agreement

### Appendix 1: U.S. Virgin Islands Economic Impact Model: ABR Operating Agreement Costs

Page | 10

|     |                               | Direct Effects  | Percent                             | Output | Employment | Income |
|-----|-------------------------------|-----------------|-------------------------------------|--------|------------|--------|
| 1.  | 11 Ag Nat. Res. & Const.      | 0               | 100%                                | 1.226  | 1.191      | 1.214  |
| 2.  | 31-33 Manufacturing           | 1,069,070,477   | 100%                                | 1.341  | 1.502      | 1.409  |
| 3.  | 42 Wholesale Trade            | 0               | 100%                                | 1.177  | 1.084      | 1.077  |
| 4.  | 48-49 Transp., Ware. & Util.  | 0               | 100%                                | 1.192  | 1.091      | 1.087  |
| 5.  | 44-45 Retail Trade            | 0               | 100%                                | 1.163  | 1.142      | 1.161  |
| 6.  | 51 Information                | 0               | 100%                                | 1.204  | 1.128      | 1.118  |
| 7.  | 52 Finance & Insurance        | 0               | 100%                                | 1.192  | 1.108      | 1.105  |
| 8.  | 53 Real Estate & Rental       | 0               | 100%                                | 1.118  | 1.115      | 1.108  |
| 9.  | 54 Prof.-Sci. & Tech Services | 0               | 100%                                | 1.187  | 1.151      | 1.136  |
| 10. | 55 Management of Companies    | 0               | 100%                                | 1.153  | 1.140      | 1.117  |
| 11. | 56 Admin. & Waste Services    | 0               | 100%                                | 1.139  | 1.035      | 1.036  |
| 12. | 61 Educational Services       | 0               | 100%                                | 1.215  | 1.053      | 1.059  |
| 13. | 62 Health & Social Services   | 0               | 100%                                | 1.195  | 1.086      | 1.087  |
| 14. | 71 Arts-Enter. & Recreation   | 0               | 100%                                | 1.424  | 1.374      | 1.415  |
| 15. | 72 Accom. & Food Services     | 0               | 100%                                | 1.377  | 1.301      | 1.373  |
| 16. | 81 Other Services             | 0               | 100%                                | 1.137  | 1.115      | 1.129  |
| 17. | 92 Government & Non NAICs     | 0               | 100%                                | 1.537  | 1.530      | 1.525  |
|     |                               |                 |                                     |        |            |        |
|     | Direct Effects                |                 |                                     |        |            |        |
|     | Output (\$ Nominal)           | \$1,069,070,477 | Direct Expenditures/Output          |        |            |        |
|     | Employment                    | 2,388           | Jobs From Direct Expenditures       |        |            |        |
|     | Income (\$ Nominal)           | \$275,000,000   | Compensation/Training/Raw Materials |        |            |        |
|     | Total Effects                 |                 |                                     |        |            |        |
|     | Output (\$ Nominal)           | \$1,434,051,137 | Increase in Spending in Economy     |        |            |        |
|     | Employment                    | 3,688           | Job Created in General Economy      |        |            |        |
|     | Income (\$ Nominal)           | \$387,341,811   | Increase in Economic Output Income  |        |            |        |
|     | Fiscal Effects                |                 |                                     |        |            |        |
|     | Gross Receipts                | \$64,532,301    |                                     |        |            |        |
|     | Individual Income Tax         | \$45,318,992    |                                     |        |            |        |
|     | Trade and Excise Tax          | \$7,746,836     |                                     |        |            |        |
|     | Corporate Income Tax          | \$46,771,833    |                                     |        |            |        |
|     |                               |                 |                                     |        |            |        |
|     | Total Fiscal Effect           | \$164,369,963   |                                     |        |            |        |

## U.S. Virgin Islands Economic Impact of the Atlantic Basin Refining Operating Agreement

### Appendix 2: U.S. Virgin Islands Economic Impact Model: ABR Restart Compensation Cost

Page | 11

|     |                               | Direct Effects | Percent                            | Output | Employment | Income |
|-----|-------------------------------|----------------|------------------------------------|--------|------------|--------|
| 1.  | 11 Ag Nat. Res. & Const.      | 0              | 100%                               | 1.226  | 1.191      | 1.214  |
| 2.  | 31-33 Manufacturing           | 174,938,805    | 100%                               | 1.341  | 1.502      | 1.409  |
| 3.  | 42 Wholesale Trade            | 0              | 100%                               | 1.177  | 1.084      | 1.077  |
| 4.  | 48-49 Transp., Ware. & Util.  | 0              | 100%                               | 1.192  | 1.091      | 1.087  |
| 5.  | 44-45 Retail Trade            | 0              | 100%                               | 1.163  | 1.142      | 1.161  |
| 6.  | 51 Information                | 0              | 100%                               | 1.204  | 1.128      | 1.118  |
| 7.  | 52 Finance & Insurance        | 0              | 100%                               | 1.192  | 1.108      | 1.105  |
| 8.  | 53 Real Estate & Rental       | 0              | 100%                               | 1.118  | 1.115      | 1.108  |
| 9.  | 54 Prof.-Sci. & Tech Services | 0              | 100%                               | 1.187  | 1.151      | 1.136  |
| 10. | 55 Management of Companies    | 0              | 100%                               | 1.153  | 1.140      | 1.117  |
| 11. | 56 Admin. & Waste Services    | 0              | 100%                               | 1.139  | 1.035      | 1.036  |
| 12. | 61 Educational Services       | 0              | 100%                               | 1.215  | 1.053      | 1.059  |
| 13. | 62 Health & Social Services   | 0              | 100%                               | 1.195  | 1.086      | 1.087  |
| 14. | 71 Arts-Enter. & Recreation   | 0              | 100%                               | 1.424  | 1.374      | 1.415  |
| 15. | 72 Accom. & Food Services     | 0              | 100%                               | 1.377  | 1.301      | 1.373  |
| 16. | 81 Other Services             | 0              | 100%                               | 1.137  | 1.115      | 1.129  |
| 17. | 92 Government & Non NAICs     | 0              | 100%                               | 1.537  | 1.530      | 1.525  |
|     |                               |                |                                    |        |            |        |
|     | Direct Effects                |                |                                    |        |            |        |
|     | Output (\$ Nominal)           | \$174,938,805  | Direct Expenditures/Output         |        |            |        |
|     | Employment                    | 224            | Jobs From Direct Expenditures      |        |            |        |
|     | Income (\$ Nominal)           | \$45,000,000   | Compensation                       |        |            |        |
|     | Total Effects                 |                |                                    |        |            |        |
|     | Output (\$ Nominal)           | \$234,662,913  | Increase in Spending in Economy    |        |            |        |
|     | Employment                    | 336            | Job Created in General Economy     |        |            |        |
|     | Income (\$ Nominal)           | \$63,383,205   | Increase in Economic Output Income |        |            |        |
|     | Fiscal Effects                |                |                                    |        |            |        |
|     | Gross Receipts                | \$10,559,831   |                                    |        |            |        |
|     | Individual Income Tax         | \$7,415,835    |                                    |        |            |        |
|     | Trade and Excise Tax          | \$1,267,664    |                                    |        |            |        |
|     | Corporate Income Tax          | \$7,653,573    |                                    |        |            |        |
|     |                               |                |                                    |        |            |        |
|     | Total Fiscal Effect           | \$26,896,903   |                                    |        |            |        |

## U.S. Virgin Islands Economic Impact of the Atlantic Basin Refining Operating Agreement

### Appendix 3: U.S. Virgin Islands Economic Indicators: Population, Employment and Income

Page | 12

| RESIDENT POPULATION, LABOR FORCE AND STUDENT ENROLLMENT               |          |          |          |          |          |          | Annual Percent Change |        |
|-----------------------------------------------------------------------|----------|----------|----------|----------|----------|----------|-----------------------|--------|
|                                                                       | 2008     | 2009     | 2010     | 2011     | 2012     | 2013     | 5-Year                | 1-Year |
| Resident population                                                   | 115,852  | 107,343  | 106,405  | 105,743  | 105,080  | 104,563  | -2.0                  | -0.5   |
| St. Croix                                                             | 56,783   | 52,612   | 50,601   | 50,413   | 50,225   | 49,938   | -2.5                  | -0.6   |
| St. Thomas/St. John                                                   | 59,069   | 54,731   | 55,804   | 55,330   | 54,855   | 54,625   | -1.5                  | -0.4   |
| St. Thomas                                                            | 54,592   | 50,583   | 51,634   | 51,225   | 50,816   | 50,610   | -1.5                  | -0.4   |
| St. John                                                              | 4,477    | 4,148    | 4,170    | 4,105    | 4,039    | 4,015    | -2.1                  | -0.6   |
| Civilian labor force                                                  | 52,630   | 52,861   | 51,424   | 50,729   | 50,577   | 47,558   | -2.0                  | -6.0   |
| Civilian employment                                                   | 49,589   | 48,863   | 47,272   | 46,121   | 44,659   | 41,207   | -3.6                  | -7.7   |
| Unemployment rate (percent)                                           | 5.8      | 7.6      | 8.1      | 8.9      | 11.7     | 13.4     | -                     | -      |
| St. Croix                                                             | 7.0      | 8.8      | 8.8      | 9.8      | 13.9     | 15.1     | -                     | -      |
| St. Thomas/St. John                                                   | 5.0      | 6.6      | 7.5      | 8.5      | 9.8      | 11.8     | -                     | -      |
| K-12 school enrollment                                                | 23,261   | 21,684   | 22,052   | 21,175   | 20,310   | 19,643   | -3.3                  | -3.3   |
| U.V.I. graduates                                                      | 314      | 345      | 383      | 337      | 359      | 332      | 1.6                   | -7.5   |
| NON-AGRICULTURAL WAGE AND SALARY EMPLOYMENT (number of jobs)          |          |          |          |          |          |          |                       |        |
|                                                                       | 2008     | 2009     | 2010     | 2011     | 2012     | 2013     | 5-Year                | 1-Year |
| Total Wage & Salary Employment                                        | 45,488   | 43,690   | 44,106   | 43,719   | 40,317   | 38,704   | -3.1                  | -4.0   |
| Private Sector                                                        | 32,479   | 30,680   | 31,029   | 31,242   | 28,841   | 27,681   | -3.1                  | -4.0   |
| Construction & Mining                                                 | 2,463    | 2,081    | 2,099    | 2,055    | 1,756    | 1,647    | -7.5                  | -6.2   |
| Manufacturing                                                         | 2,361    | 2,192    | 2,120    | 2,096    | 1,271    | 672      | -19.6                 | -47.1  |
| Transportation & Utilities                                            | 1,648    | 1,577    | 1,514    | 1,579    | 1,487    | 1,494    | -1.9                  | 0.5    |
| Wholesale & Retail Trade                                              | 7,076    | 6,825    | 6,706    | 6,846    | 6,820    | 6,755    | -0.9                  | -1.0   |
| Financial Activities                                                  | 2,491    | 2,458    | 2,360    | 2,375    | 2,279    | 2,236    | -2.1                  | -1.9   |
| Leisure and Hospitality                                               | 7,520    | 6,952    | 7,296    | 7,372    | 7,237    | 7,247    | -0.7                  | 0.1    |
| Information                                                           | 787      | 777      | 768      | 801      | 807      | 769      | -0.4                  | -4.7   |
| Other Services                                                        | 9,225    | 9,120    | 9,143    | 9,738    | 9,163    | 9,082    | -0.2                  | -0.9   |
| Federal government                                                    | 978      | 1,001    | 962      | 937      | 946      | 952      | -0.5                  | 0.7    |
| Territorial government                                                | 12,031   | 12,009   | 12,116   | 11,540   | 10,530   | 10,071   | -3.4                  | -4.4   |
| TERRITORIAL GROSS DOMESTIC PRODUCT, INCOME AND EARNINGS (in millions) |          |          |          |          |          |          |                       |        |
|                                                                       | 2008     | 2009     | 2010     | 2011     | 2012     | 2013     | 5-Year                | 1-Year |
| Gross Domestic Product (GDP)                                          | \$4,266  | \$4,260  | \$4,406  | \$4,288  | \$4,143  | \$3,792  | -2.2                  | -8.5   |
| Personal Income (PI)                                                  | \$2,658  | \$2,569  | \$2,722  | \$2,653  | \$2,458  | \$2,233  | -3.3                  | -9.1   |
| Per Capita Personal Income                                            | \$22,947 | \$23,931 | \$25,603 | \$25,084 | \$23,388 | \$21,353 | -1.2                  | -8.7   |
| Per capita PI as % of U.S. average                                    | 56       | 62       | 64       | 59       | 54       | 48       | -                     | -      |
| Wages and Salaries                                                    | \$1,683  | \$1,630  | \$1,676  | \$1,690  | \$1,566  | \$1,452  | -2.8                  | -7.3   |
| Real GDP (millions of 2005 dollars)                                   | \$4,851  | \$4,583  | \$4,645  | \$4,295  | \$3,702  | \$3,501  | -6.2                  | -5.4   |

## U.S. Virgin Islands Economic Impact of the Atlantic Basin Refining Operating Agreement

### Appendix 4: U.S. Virgin Islands Territorial Gross Domestic Product (Millions of Dollars)

Page | 13

|                                                                 | 2007         | 2008         | 2009         | 2010         | 2011         | 2012         | 2013         |
|-----------------------------------------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| <b>Real Gross domestic product</b>                              | <b>4,836</b> | <b>4,852</b> | <b>4,583</b> | <b>4,645</b> | <b>4,295</b> | <b>3,702</b> | <b>3,501</b> |
| <b>Personal consumption expenditures</b>                        | <b>2,076</b> | <b>1,960</b> | <b>2,035</b> | <b>2,073</b> | <b>2,062</b> | <b>2,058</b> | <b>2,000</b> |
| Goods                                                           | 1,161        | 1,008        | 987          | 970          | 955          | 938          | 954          |
| Durable goods                                                   | 746          | 619          | 576          | 545          | 534          | 531          | 571          |
| Nondurable goods                                                | 411          | 385          | 405          | 419          | 415          | 401          | 378          |
| Foods, feeds, and beverages                                     | 244          | 236          | 248          | 254          | 255          | 268          | 261          |
| Other nondurable goods                                          | 167          | 149          | 157          | 164          | 160          | 137          | 122          |
| Services                                                        | 1,949        | 1,950        | 1,918        | 1,955        | 1,973        | 2,014        | 1,991        |
| Housing and utilities                                           | 527          | 513          | 535          | 539          | 558          | 560          | 556          |
| Health care                                                     | 205          | 220          | 223          | 228          | 240          | 257          | 261          |
| Food services and accommodations                                | 475          | 481          | 434          | 448          | 433          | 440          | 440          |
| Other services                                                  | 743          | 738          | 725          | 739          | 739          | 755          | 731          |
| Net foreign travel                                              | -1,034       | -996         | -870         | -851         | -863         | -889         | -937         |
| <b>Private fixed investment</b>                                 | <b>397</b>   | <b>361</b>   | <b>311</b>   | <b>310</b>   | <b>287</b>   | <b>194</b>   | <b>196</b>   |
| <b>Change in private inventories</b>                            | <b>-414</b>  | <b>106</b>   | <b>200</b>   | <b>-197</b>  | <b>56</b>    | <b>59</b>    | <b>83</b>    |
| <b>Net exports of goods and services</b>                        | <b>1,732</b> | <b>1,364</b> | <b>946</b>   | <b>1,251</b> | <b>753</b>   | <b>194</b>   | <b>94</b>    |
| Exports                                                         | 11,069       | 11,232       | 10,114       | 9,691        | 8,088        | 1,772        | 1,507        |
| Goods                                                           | 10,014       | 10,204       | 9,214        | 8,816        | 7,239        | 1,112        | 817          |
| Services                                                        | 1,057        | 1,015        | 885          | 861          | 872          | 898          | 947          |
| Imports                                                         | 9,337        | 9,868        | 9,169        | 8,440        | 7,335        | 1,578        | 1,412        |
| Goods                                                           | 9,092        | 9,645        | 8,954        | 8,235        | 7,145        | 1,501        | 1,337        |
| Services                                                        | 251          | 211          | 207          | 200          | 191          | 94           | 94           |
| <b>Government consumption expenditures and gross investment</b> | <b>957</b>   | <b>964</b>   | <b>1,008</b> | <b>1,049</b> | <b>989</b>   | <b>895</b>   | <b>865</b>   |
| Federal                                                         | 112          | 116          | 129          | 150          | 135          | 129          | 127          |
| Territorial                                                     | 845          | 847          | 878          | 899          | 854          | 766          | 738          |
| <b>Addenda:</b>                                                 |              |              |              |              |              |              |              |
| <b>Gross domestic income (current dollars)</b>                  | <b>4,853</b> | <b>4,266</b> | <b>4,260</b> | <b>4,406</b> | <b>4,288</b> | <b>4,143</b> | <b>3,792</b> |
| Employee Compensation                                           | 2,174        | 2,223        | 2,148        | 2,278        | 2,218        | 2,055        | 1,867        |
| Population (thousands)                                          | 114.7        | 115.9        | 107.3        | 106.4        | 105.9        | 105.4        | 104.9        |
| Per capita real GDP (chained dollars)                           | 42,162       | 41,864       | 42,712       | 43,656       | 40,557       | 35,123       | 33,375       |



## U.S. Virgin Islands Economic Impact of the Atlantic Basin Refining Operating Agreement

### Appendix 5: Comparison of Atlantic Basin Refining Operating Agreement with HOVENSA Concession Agreement

Page | 14

| Item/Obligation                         | HOVENSA<br>(Third Extension Agreement<br>(April 15, 1998) | ABR<br>(Proposed New Operating Agreement)<br>(October 30, 2014)                                                                                             |
|-----------------------------------------|-----------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Commitment to Operate a Refinery</b> | Owners dispute existence of any commitment <sup>1</sup>   | Explicit commitment to run a minimum 300,000 barrels per day once restarted                                                                                 |
| <b>Commitment to Site Restoration</b>   | No requirement                                            | Explicit commitment to deconstruct and restore entire site                                                                                                  |
| <b>Employment commitment</b>            | No commitment to employ specific number                   | Commitment to employ minimum of 500 full-time employees (75% to be VI Residents) and 100 full-time equivalent contractors                                   |
| <b>Payment Obligations</b>              |                                                           |                                                                                                                                                             |
| <i>Signing Payment</i>                  | Not required                                              | ABR has placed \$1 million in escrow; if ABR fails to meet certain closing conditions, the money is paid to the Government                                  |
| <i>Closing Payments</i>                 | Not required                                              | ABR will pay:<br><br>\$40 million in satisfaction of NRD settlement<br><br>\$5 million in transaction expenses<br><br>\$500,000 in Site Restoration Account |

<sup>1</sup> The Government strongly disputes HOVENSA's assertion that it has no affirmative obligation to operate the refinery.

## U.S. Virgin Islands Economic Impact of the Atlantic Basin Refining Operating Agreement

Page | 15

| Item/Obligation         | HOVENSA<br>(Third Extension Agreement<br>(April 15, 1998) | ABR<br>(Proposed New Operating Agreement)<br>(October 30, 2014)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------------|-----------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Fixed Payment</i>    | \$14 million                                              | <p>ABR obtains financing and restarts the Refinery:</p> <p>Years 1-6: \$14 million<br/> Years 7-10: \$32 million<br/> Years 11-15: \$36 million<br/> Years 16-22: \$40 million<br/> Extensions: \$45 million plus annual inflation adjustment</p> <p>ABR fails to obtain financing:</p> <p>After failed financing certification:</p> <p>Years 1-3 \$15 million<br/> All subsequent years: \$30 million</p> <p>ABR obtains financing but fails to restart Refinery or shuts it down:</p> <p>Until financing repaid: \$15 million</p> <p>All subsequent years: \$22 million (plus annual inflation adjustment during extension periods)</p> |
| <i>Variable Payment</i> | 38.5% flat rate<br><br>Extensive use of NOL <sup>2</sup>  | Progressive rates from 5%-25%<br><br>No NOL carrybacks and limited NOL carryforwards, yielding                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

<sup>2</sup> Net Operating Loss ("NOL") is used in some other tax reporting period as an offset to taxable income, which reduces the tax liability of the reporting entity.

## U.S. Virgin Islands Economic Impact of the Atlantic Basin Refining Operating Agreement

Page | 16

| Item/Obligation                 | HOVENSA<br>(Third Extension Agreement<br>(April 15, 1998)      | ABR<br>(Proposed New Operating Agreement)<br>(October 30, 2014)                                                                                                                                              |
|---------------------------------|----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                 | carrybacks and carryforwards to avoid paying tax in most years | increased variable payments and no tax refund exposure.                                                                                                                                                      |
| <i>"Earn-Out" Payment</i>       | None                                                           | Government receives 20% of proceeds from Refinery sale up to \$50 million                                                                                                                                    |
| <i>Site Restoration Payment</i> | Not required                                                   | \$5 million annually into trust account to fund site restoration<br><br>If financing not obtained, minimum of \$10 million<br><br>If financing obtained but refinery not operating, minimum of \$7.5 million |
| <i>Per-barrel fee</i>           | \$0.02 / barrel                                                | Within Fixed and Variable payment                                                                                                                                                                            |
| <i>Scholarships/training</i>    | ~ \$1 million total                                            | Commitment to provide training                                                                                                                                                                               |
| <b>Financial Protections</b>    |                                                                |                                                                                                                                                                                                              |
| <i>Parent Guarantee</i>         | None                                                           | ABR parent company guarantees all ABR obligations                                                                                                                                                            |
| <i>Third-Party Guarantee</i>    | None                                                           | Reputable third party guarantees (acceptable to the Government) ABR payments from closing to restart and during any period of default on a 12 month revolving (evergreen) basis                              |
| <b>Bankruptcy Protection</b>    |                                                                |                                                                                                                                                                                                              |

## U.S. Virgin Islands Economic Impact of the Atlantic Basin Refining Operating Agreement

Page | 17

| Item/Obligation                              | HOVENSA<br>(Third Extension Agreement<br>(April 15, 1998)                              | ABR<br>(Proposed New Operating Agreement)<br>(October 30, 2014)                                                                                             |
|----------------------------------------------|----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Security Interest</i>                     | None                                                                                   | Government holds security interest in Refinery real property, fixtures, equipment, and personal property; interest is subordinated to third-party financing |
| <b>Fuel Subsidies</b>                        |                                                                                        |                                                                                                                                                             |
| <i>WAPA Fuel</i>                             | Obligation to bid for WAPA's fuel needs at prices determined using contractual formula | None; WAPA switch to LPG/LNG should reduce costs to below subsidized levels                                                                                 |
| <i>Gasoline and Diesel</i>                   | Obligation to provide gasoline and diesel fuels at published rack prices               | ABR will provide fuel at the loading rack at a below-market price based upon a predetermined formula                                                        |
| <b>Transparency</b>                          | None                                                                                   | Annual audits of books, accounts, and records<br><br>On-demand inspections to determine compliance with Agreement and applicable law                        |
| <b>Public Access to Limetree Bay Channel</b> | None prior to Fourth Amendment Agreement                                               | Public access with priority to Refinery traffic                                                                                                             |





[www.usviber.org](http://www.usviber.org)