

Tulane Institute on Water Resources Law & Policy

INVESTMENT IN COASTAL COMMUNITIES

Financing Options for Coastal Protection and Restoration in Louisiana

A Part of Financing the Future, a Continuing Series

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I. INTRODUCTION

The long-term financial stability of the coastal Louisiana is in multiple hands-- federal, state, and local governments as well as in those of private actors. To maintain economic viability, South Louisiana needs continued investment at every scale, from individual homeowners to businesses and major lenders. Investment can be defined broadly as the willingness of individuals and businesses to place resources in a region with the expectation that their value will grow or, at the very least, maintain.² Investment depends on confidence, and coastal and climate change threaten to erode investor confidence in a number of ways. This might happen in obvious ways; property owners may shy away from continued investment if they believe a storm, flood, or other catastrophe will wipe out the property's value. Confidence might also erode as local governments lose their ability to maintain necessary infrastructure (roads, utilities) and services (police, healthcare). Investor confidence could also be shaken by less tangible causes – skyrocketing insurance premiums, for example – that don't alter the physical landscape but change the financial calculus of investment decisions. These factors will also influence commercial and industrial firms, possibly causing some to curtail or even cease operating in a region. Even if homeowners are otherwise willing to invest, the loss of a community pillar such

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² *Investment*, Investopedia.com, <https://www.investopedia.com/terms/i/investment.asp>.

as a major employer, hospital, or economic resource (e.g. fisheries) could tip the balance away from viability for coastal communities.

II. PROPERTY VALUES & MORTGAGE LENDING

Property values are the major component in individual wealth for most people in the United States. For the average American over 35, home equity makes up roughly 70% of their net worth.³ With so much at stake, it is understandable that many coastal homeowners have invested considerable resources in protecting individual properties. Despite the risks, the allure of coastal property still holds sway and there has not, as of yet, been large-scale migration landward or a lack of interest in buying coastal property. “Home buyers tend to think short term, focus on what they can afford and hope that the local infrastructure keeps pace with the rise in sea levels. Home buyers are also generally on their own as they look at prospective properties and try to size up their risk, as real estate agents vary in what they disclose.”⁴ However, the housing market is starting to wake up to such risks. Research currently under way shows that middle-income residents are already leaving areas of Miami Beach that suffer from nuisance flooding.⁵ From 2006 to 2016, median home prices rose 29.7% across the US.⁶ Over the same period, median home prices in high-risk flood areas have fallen by 4.4%.⁷

The average homebuyer might not have access to detailed flood risk disclosures. Mortgage lenders do, however, have the resources to assess climate risks in their lending decisions. Institutional lenders have the power to make decisions that could obviate community resilience efforts. Jim Cason, the Mayor of Coral Gables, Florida, laid out the potential tipping points facing coastal communities. “If property values start to fall...banks could stop writing 30-year mortgages for coastal homes, shrinking the pool of able buyers and sending prices lower still. Those properties make up a quarter of [Coral Gables’] tax base; if that revenue fell, the city would struggle to provide the services that make it such a desirable place to live, causing more

³ Jim Wang, *Average Net Worth by Age – A Look at American’s Wealth & How You Stack Up*, Wallethacks.com, (April 18, 2018) <https://wallethacks.com/average-net-worth-by-age-americans/>.

⁴ Ian Urbina, *Perils of Climate Change could Swamp Coastal Real Estate*, N.Y. Times (Nov. 24, 2016), <https://www.nytimes.com/2016/11/24/science/global-warming-coastal-real-estate.html>.

⁵ Erika Bolstad, *High Ground is Becoming Hot Property as Sea Level Rises*, Scientific Am. (May 1, 2017), <https://www.scientificamerican.com/article/high-ground-is-becoming-hot-property-as-sea-level-rises/>.

⁶ Urbina, *supra* note 4.

⁷ *Id.*

sales and another drop in revenue.”⁸ Lenders in Australia have already begun to lower their loan-to-valuation ratios in flood risk areas, placing higher upfront costs on the homeowner and making it harder to transfer property.⁹ If mortgage lenders begin to incorporate robust climate risk assessment and actively limit their collateral exposed to climate change, it could trigger a potentially devastating collapse of coastal communities.

The economic ripple effect of declining coastal property values would not be limited to the coast. A 2016 report from the Federal Home Loan Mortgage Corporation (Freddie Mac) warned that the value of coastal homes, which could be “literally underwater”, would cease to exist with no expectation of recovery, making it substantially less likely that borrowers would make mortgage payments than other circumstances where home value decreases.¹⁰ Thus, because mortgage-backed securities are frequently bundled and resold to institutional investors who hold them as facets of investment portfolios, the value of these investment portfolios could drop precipitously, or even disappear entirely. This would lead to an economic and social threat that, while gradual, is “likely to be greater in total than those experienced in the housing crisis and Great Recession.”¹¹

Another important consideration will be how mortgage underwriters approach changes to the security of their investments. Banks could exert influence directly on individual properties by, for example, requiring borrowers to undertake protections, or they could simply cut entire parishes, towns, or latitudes out of their lending portfolios. Where financially feasible, homeowners are investing in protections for their investments, such as raising their homes or building seawalls.¹² However, many property owners in coastal municipalities most affected by rising sea levels and decreasing property values do not have the disposable income available for these projects. Furthermore, there is limited value to these individual investments “when surrounding areas do not keep pace and flooding or the rise in sea levels swamps nearby

⁸ Christopher Flavelle, *The Nightmare Scenario For Florida’s Coastal Homeowners*, Bloomberg (Apr. 19, 2017, 4:00 PM CDT), <https://www.bloomberg.com/news/features/2017-04-19/the-nightmare-scenario-for-florida-s-coastal-homeowners>.

⁹ Kate Mackenzie with Brinsley Marlay, John Connor, Erwin Jackson and Luke Menzies, *There Goes the Neighbourhood: Australian Housing and the Financial Sector 25* (The Climate Institute 2016).

¹⁰ Sean Beckett, Brock Lacy, *Economic and Housing Resource Insight 6* (Freddie Mac 2016).

¹¹ *Id.*

¹² Ubina, *supra* note 4.

roads.”¹³ Thus, the role of parish and municipal governments in protecting the value of their citizen’s property values, and instilling confidence in mortgage lenders and banks, is inherently tied to their ability to learn to live with the rising water.

One way that governments can easily protect the property values of their citizens and assuage the concerns of lenders is through active participation in the Community Rating System (CRS) of the National Flood Insurance Program (NFIP).¹⁴ CRS is a voluntary program for communities in good standing with the NFIP that awards points for community activities that lower risk, and these points are transferred into discounts on insurance rates for property owners.¹⁵ Discounts range from 5% to 45% and increase in 5% increments.¹⁶ In order to be eligible for the program, the community must maintain FEMA elevation certificates for buildings built after the date of its CRS application.¹⁷ Additionally, if the community is a repetitive loss community, they must “prepare, adopt, implement, and update a comprehensive flood hazard mitigation plan using a standard planning process.”¹⁸ Outside of these mandatory requirements, all other point-eligible programs can be discretionarily implemented.¹⁹

The savings available through participation in the CRS program are substantial, yet many eligible communities in Louisiana are not participating in the program.²⁰ Most of these communities are already implementing the policies and programs viable for points under the program. However, government officials have difficulties complying with the administrative aspects of the program, like documenting programs and policies, due to lack of capacity and funding for a full-time position. It is imperative that coastal communities prioritize creating a specified, full-time CRS program position or division within their governmental structure. This could be facilitated through regulations aimed at strengthening or beginning compliance, or

¹³ *Id.*

¹⁴ Fed. Emergency Mgmt. Agency, Community Rating System A Local Official’s Guide to Saving Lives Preventing Property Damage Reducing the Cost of Flood Insurance 2 (National Flood Insurance Program 2016).

¹⁵ *Id.*

¹⁶ *Id.* at 3.

¹⁷ *Id.* at 4.

¹⁸ *Id.* at 6.

¹⁹ *See id.* at 8.

²⁰ Fed. Emergency Mgmt. Agency, Community Rating System 18-19 (National Flood Insurance Program 2016); Community Rating System Participation State Maps, <https://www.fema.gov/media-library/assets/documents/27808> (Federal Emergency Management Agency, 2018).

through independent initiative within the agencies and offices best suited to handle these questions.

Should a coastal community actively participate in CRS, thereby lowering insurance rates for its property owners, funds will become available for use on other non-structural projects. A good example of this is home elevation. Though a moderate rise in elevation may just be 1 to 2% of the construction cost of a new home, it's vastly more expensive to elevate an existing home, with an average cost of \$160,000 for a seven foot increase in height.²¹ By saving homeowners money on their insurance premiums through participation in CRS, property owners are one step closer to affording these types of mitigation efforts. Further, home elevation can lead to greater CRS discounts, completing the circle. These smaller investments, coupled with strong structural protections and active community engagement, can vastly extend community viability and lender confidence.

III. IMPACT INVESTING & COASTAL RESTORATION

Investors have wide discretion when choosing in which companies and communities to invest. As investors consider where to place their finances, they are increasingly looking for businesses and other investments that catalyze not only financial capital, but social capital as well. Specifically, investors are relying on a set of criteria, referred to as environmental, social, and governance (ESG), which are ethical factors that investors consider when determining in which companies and locations to invest.²² ESG criteria are part of the larger trend of socially responsible investing (“impact investing”). Impact investors look to maximize profits while also supporting socially responsible, environmentally conscious, ethical businesses. Although they incorporate monetary considerations into investment determinations, they do not value profit over ethics; instead, they strive to create a balance between the two. Further, investors do not follow a specific formula for ESG analysis; different investors may prioritize different factors. Some may focus primarily on the environment, and therefore would want to look into specifics like a company's contribution to climate change. Others may place more emphasis on the social aspect by examining a company's labor practices and how ethically sound they may be.

²¹ Amanda Kolson Hurley, *The House of the Future is Elevated*, Citylab (Dec. 8, 2017), <https://www.citylab.com/design/2017/12/the-house-of-the-future-is-elevated/540327/>.

²² *Environmental Social and Governance (ESG) Criteria*, Investopedia, <https://www.investopedia.com/terms/e/environmental-social-and-governance-esg-criteria.asp>.

Additionally, although these investors may have a genuine interest in promoting ethical business practices, they also may be utilizing ESG analysis because it can be inherently more profitable. For example, the BP oil spill and the Volkswagen emissions scandal lost these companies, and their investors, large sums of money in fines and punitive settlements.²³

Impact investing has grown more popular in recent years, and trends have emerged as to what specific factors impact investors assess. According to an August 2017 Callan survey, 37% of plan sponsors²⁴ incorporate ESG criteria into their investment analysis.²⁵ Three areas that ESG investors assess have been prioritized recently – climate change, equal pay, and executive compensation.²⁶ As ESG analysis becomes more prominent in investment practices, environmental concerns are given more weight. Today’s environmental factors under consideration by investors go much further than simply analyzing a company’s carbon footprint, a common practice under corporate strategies looking to manage for the triple bottom line.²⁷ Now, investors are looking more closely at the specifics – waste management, water and resource use, energy efficiency, use of renewable energy, and climate change adaptation.²⁸ Climate change adaptation, particularly, is an attractive component of ESG management. According to the Asset Owner Disclosure Project, a measurement of the top 500 asset owners in the world, nearly one in five asset owners now has a staff dedicated to integrating climate risk into investments, and two in five now incorporate climate change into their policy frameworks.²⁹

²³ Order and Judgment Granting Final Approval of Economic and Property Damages Settlement and Confirming Certification of the Economic and Property Damages Settlement Class at 1-15, *Bon Secour Fisheries, Inc., et al. v. BP Exploration & Production Inc.*, MDL NO. 2179 (E.D. La. filed Dec. 21, 2012); Volkswagen Clean Air Act Civil Settlement, Env’tl. Prot. Agency, <https://www.epa.gov/enforcement/volkswagen-clean-air-act-civil-settlement>.

²⁴ “A plan sponsor is a designated party, usually a company or employer that sets up a healthcare or retirement plan, such as a 401(k), for the benefit of the organization’s employees. The responsibilities of the plan sponsor include determining membership parameters, investment choices, and in some cases, providing contribution payments in the form of cash and/or stock.” *Plan Sponsor*, Investopedia, <https://www.investopedia.com/terms/p/plansponsor.asp>.

²⁵ Callan LLC, *Callan’s 2017 Survey of Institutional Investors Reveals ESG Adoption Trends*, Callan.com, <https://www.callan.com/press-release-callan-2017-survey-of-institutional-investors-reveals-esg-trends/>.

²⁶ Greg DePersio, *3 Trends to Watch in ESG Investing*, Investopedia, <https://www.investopedia.com/articles/investing/030316/3-trends-watch-esg-investing.asp> (last updated Jan. 2, 2018, 7:00 A.M. EST).

²⁷ A term of art referring to “a company’s degree of social responsibility, its economic value, and its environmental impact.” *Triple Bottom Line*, Investopedia, <https://www.investopedia.com/terms/t/triple-bottom-line.asp>.

²⁸ *Helping Investors Understand the Importance of ESG*, Forbes.com, <https://www.forbes.com/sites/christopherskroupa/2017/06/19/helping-investors-understand-the-importance-of-esg/>.

²⁹ Asset Owners Disclosure Project, *Global Climate Index 2017*, <http://aodproject.net/global-climate-index-2017>.

ESG criteria analysis is crucial to coastal investment because of the serious effects that less-conscious investments can have on fragile coastal environments, both socially and ecologically. While the Coastal Master Plan calls for an integrated coastal investment and wetland restoration policy³⁰, there is still much to be done to attract private investments in coastal restoration. Currently, such investment is largely centered on community building and workforce development. For example, ExxonMobil has a well-developed ESG investment strategy, with community investments totaling \$242 million.³¹ While the majority of these investments are directed at “civic and community”, Exxon has also invested in higher education, health, the arts and culture, and the environment.³² In Exxon’s 2017 Summary Annual Report, they discuss corporate sustainability and appear to put a strong focus on the environment; stating their support for the Paris Agreement and use of energy efficient technologies.³³ However, investments into education incentives have proved most popular at the company. ExxonMobil has been an active participant in the training and education of Louisiana residents in STEM³⁴ fields, awarding a \$13 million grant to the National Math and Science Initiative in order to expand Louisiana’s STEM program in 2016.³⁵ This funding helped to spur an increase in qualifying math, science, and English Advance Placement exam scores at schools in the program.³⁶

Those qualified in these fields are particularly ready to engage with water resource management and coastal restoration, a fact that has not gone unnoticed by investors into Louisiana. At the end of 2017, IT company DXC Technologies chose New Orleans as the home for its new “Transformation Center”.³⁷ This investment was spurred, at least in part, by a large incentive package from the state, \$25 million of which will be dedicated to STEM education in

³⁰ Coastal Protection and Restoration Authority, 2017 Coastal Master Plan, http://coastal.la.gov/wp-content/uploads/2017/04/2017-Coastal-Master-Plan_Web-Book_CFinal-with-Effective-Date-06092017.pdf.

³¹ ExxonMobil, 2016 Community Investments By Focus Area, <http://corporate.exxonmobil.com/en/community/corporate-citizenship-report/charts/community-investments-by-focus-area-chart?parentId=c1f2fc43-1c09-4c34-8d85-227a1f30b773>.

³² *Id.*

³³ ExxonMobil, 2017 Summary Annual Report 30 (2017), cdn.exxonmobil.com/~media/global/files/summary-annual-report/2017-summary-annualreport.pdf.

³⁴ Science, Technology, Engineering and Medicine.

³⁵ Press Release, Louisiana Students, Teachers to Benefit from Expansion of National Math Science Initiative’s College Readiness Program (Feb. 25, 2016), <http://www.nms.org/News-and-Views/News/Louisiana-Students,-Teachers-to-Benefit-from-Expan.aspx>.

³⁶ Charles Lussier, *ExxonMobil-funded program credited with expansion of AP at capital region high schools*, The Advocate, Jan. 22, 2018.

³⁷ Katherine Sayre, *DXC Technology is a win ‘we will celebrate for a long time to come’: Gov. Edwards*, The Times Picayune, Nov. 13, 2017.

Louisiana's colleges and universities, in return for an agreement by DXC to recruit from the funded schools.³⁸ Although projected job and impact numbers have proved to be hard to fulfill, Louisiana Economic Development estimates this will create 2,257 indirect jobs for the area and the LSU Economics & Policy Research Group estimates the project will translate to \$64.3 million in new state taxes and \$868.4 million in new state earnings.³⁹

In contrast, there is very limited coastal infrastructure investment by private parties, with much of corporate impact investing focused on business climate improvement rather than project-specific infrastructure development. Coastal infrastructure investment can be broken down into two categories: gray infrastructure, such as roads and buildings; and green infrastructure, such as wetlands and barrier islands.⁴⁰ Of course, both types of investment are essential to combating the impact of climate change; however, there is currently much more private investment into gray infrastructure, such as roads. This could be problematic where the long-term environmental impact of these developments is not partnered with green infrastructure development by the corresponding governmental entities.⁴¹ With governmental entities lacking the necessary funds, private and non-profit entities have also had to serve as the primary investors in green infrastructure development, with entities like America's Wetland Foundation choosing to invest in pilot projects that build and maintain essential green infrastructure on the coast.⁴²

However, with a massive gap between the funds that are available and the actual cost of coastal restoration, there can, and should be, a larger role for private impact investors into coastal infrastructure. Currently, a variety of legal and financial mechanisms are being created that will help support investment into infrastructure and coastal resilience. One method is environmental impact bonds (EIB), a type of green bond. Usually, an outside group coordinates an EIB by aligning and connecting municipalities with investors, and determine the parameters of the bond,

³⁸ *Id.*

³⁹ Press Release, Gov. Edwards And Mayor Landrieu Announce DXC Technology To Create 2,000 Jobs in New Orleans (Nov. 13, 2017), <https://www.opportunitylouisiana.com>.

⁴⁰ Erin McCreless & Michael W Beck, *Rethinking Our Global Coastal Investment Portfolio*, 3 *Journal of Ocean and Coastal Economics* (2017).

⁴¹ *Id.*

⁴² America's Wetland Foundation, Gulf Intracoastal Waterway (GIWW) Shoreline Restoration Project, <https://www.americaswetland.com/photos/010418-AWF-GIWWProjectOverviewREV2.pdf>.

such as time frames, expected outcomes, and other key factors.⁴³ Then, investors provide the capital upfront through the purchase of the EIBs from the issuing municipality.⁴⁴ Next, the municipality constructs the project, and its outcomes are evaluated by an independent third party.⁴⁵ Finally, the municipality repays the investors contingent on the expected outcomes.⁴⁶ Key to the success of these bonds is that the return is based on the outcomes of the project. Diego Herrera of the Environmental Defense Fund's Mississippi River Delta restoration team explains it as such: "There would be agreed-upon natural infrastructure performance tiers that may, for example, give investors additional payments if outcomes are better than expected. Likewise, if the project has lower-than-expected performance, the payor could receive back a portion of the interest investors would otherwise earn."⁴⁷

Environmental impact bonds are already being used for natural infrastructure projects that support water quality. The key example is Washington D.C.'s water utility, who contracted the first ever EIB by selling \$25 million in a tax exempt EIB to Goldman Sachs and the Calvert Foundation, using the funds towards a clean water project that manages storm water runoff and river pollution through green infrastructure.⁴⁸ This model can be used for coastal restoration purposes as well. A recent example of this is that NatureVest, the conservation-investing unit of the Nature Conservancy, awarded the Environmental Defense Fund (EDF) a Conservation Investment Accelerator Winner.⁴⁹ Under this award, EDF will receive a grant, which they intend to use to develop an EIB.⁵⁰ The EIB will go towards funding a wetland restoration project from the Coastal Master Plan.⁵¹ The EIB plans to bring together government, corporate, and non-profit resources to accelerate the coastal restoration, and has the potential to save the state millions of

⁴³Programs & Initiatives, *Environmental Impact Bonds*, Chesapeake Bay Foundation, <http://www.cbf.org/how-we-save-the-bay/programs-initiatives/environmental-impact-bonds.html>.

⁴⁴ *Id.*

⁴⁵ *Id.*

⁴⁶ *Id.*

⁴⁷ Diego Herrera, *Environmental impact bonds: Next big thing for green investments?*, Environmental Defense Fund Blog (Jul 14, 2017), <https://www.edf.org/blog/2017/07/14/environmental-impact-bonds-next-big-thing-green-investments>.

⁴⁸ *Id.*

⁴⁹ Press Release, Environmental Defense Fund, EDF Designing First Ever Environmental Impact Bond for Wetland Restoration (Oct 3, 2017), <https://www.edf.org/media/edf-designing-first-ever-environmental-impact-bond-wetland-restoration>.

⁵⁰ *Id.*

⁵¹ *Id.*

dollars over the next decade.⁵² These opportunities should not be overlooked by public entities as they are trying to fill the space between the finances they have and the finances they need. Impact investing makes up a small part of overall investing currently, about 1% or roughly \$77 billion; however, it is expected to grow to as large as \$700 billion by 2020.⁵³ That surge of interest coupled with the time and dollars savings associated with early action suggest that the time to fully explore these options is now.

As public entities look towards attracting these types of investments in the future, they should begin collecting and providing complete ESG data for investors in municipal bonds and infrastructure partnerships. By incorporating environmental data into risk assessments, municipalities allow private investors to apply a holistic approach to investment decisions by evaluating factors such as municipal adherence to regulations, debt incurred due to mitigation activities, and climate-change preparedness.⁵⁴ Municipalities can do this by not only keeping adequate records on the mentioned data, but also by developing the tax base and management systems to support it. Additionally, developing mechanisms on the municipal level for tracking spending on and implementation of infrastructure projects can allow for a more cohesive approach to coastal resiliency, providing potential investors with a roadmap showing how each infrastructure project interacts with the others. This shows investors that their public partner is committed to mitigating the impacts of climate change through the continual promotion of green infrastructure development, thereby minimizing future risks to their investments. Finally, governments should consider their current contracting and procurement regulations, ensuring that they are conducive to attracting impact investors who may not fit into the traditional models of municipal contracting.

IV. CONCLUSION

As the Louisiana coast continues to change due to climate change and other causes, the impacts that investments have on community viability become increasingly important. Both outside parties and citizens of these communities make substantial investments in their futures by choosing to remain in coastal Louisiana. The parties that place resources – time, money, and

⁵² *Id.*

⁵³ Herrera, *supra* note 47.

⁵⁴ Rob Moore & Robert Fernandez, How CDP Data Can Inform Investors about Risk and Opportunities in U.S. Municipal Bonds 1 (2015).

assets – into coastal communities rely on their governmental partners to provide a stable and functional environment where their investments can thrive. Governments can create conditions conducive to investment by prioritizing capacity building in environmental and social factors, including by making investments of their own through participation in programs such as the Community Rating System. They should also build strong, environmentally engaged portfolios in order to attract investors who place value in environmental, social, and governance criteria when selecting their investments. With a little luck, and smart planning, community-led investments can allow the daunting future of coastal communities to become one of hope and growth.