PHILIPPINE CONSTRUCTION INDUSTRY ROADMAP 2020-2030

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Message of the President of the Republic of the Philippines

For the longest time, our country's infrastructure lay in the dustbins of the world. While our ASEAN neighbors built superhighways and bridges that spurred their economies on, all we had were half-built dusty provincial roads and bridges that had become rickety and unsafe because they were built lifetimes ago. Truly we had been left behind and it didn't seem like we could catch on.

All that is changing now.

As we address the internal causes of that major oversight—corruption, indifference, collusion of those in government with big business—so, too, have we turned our focus on the externals by building structures we have long needed and wanted.

And finally, the Golden Age of Infrastructure of our beloved country is upon us.

The country of our dreams is within reach.

We are grateful for our partners in the private sector who have joined hands with us in, quite literally and figuratively, rebuilding our country and leaving it in a much better shape than we found it.

Indeed, BUILD BUILD BUILD will be so much more of a challenge than it already is without those of you who have joined us in dreaming big dreams for our country and then folding your sleeves and getting to work to make those dreams happen.

My warmest congratulations to the Department of Trade and Industry and the Philippine Constructors Association for leading the effort in producing this important document—the Construction Industry Roadmap - that will most surely drive our economy to heights yet unseen and that will ensure that we will give this precious gift of a country at par with the world's best to future generations of Filipinos.

Mabuhay ang ating mahal na Pilipinas!

President Rodrigo Roa Duterte

Message of the Senate President

The Senate of the Philippines has always been committed to constantly reengineer its passion in supporting legislative agenda that will strengthen our nation and provide a higher quality of life for our Filipino families.

The construction industry is essentially the builder of our economy. It serves as one of the biggest cornerstones of businesses, institutions, and communities. The strategic priority that the Duterte Administration has placed on infrastructure development is definitely in the right direction and is already producing results, but we need to make sure that this momentum is maintained in the next decades. In this regard, there is no more powerful tool in ensuring the long-term success of development efforts across consecutive elections and administrations than a good piece of legislation.

Now that our economy is experiencing a high momentum of growth, the sustainability and integrity of our infrastructure and structures are of national urgency and importance in the menu of legislative agenda.

I congratulate the Department of Trade and Industry - Construction Industry Authority of the Philippines, together with the private sector, through the leadership of the Philippine Constructors Association, in pushing hard this initiative of gathering everybody in the construction industry and crafting this Philippine Construction Industry Roadmap 2020-2030. Let us work together in building the sustainability and integrity of our future.

Vicente C. Sotto III

Message of the Speaker of the House of Representatives

As the world becomes smaller and smaller with globalization, Filipino companies are discovering more and more opportunities to share their skills and talents with the rest of the world economy and how the futures of nations may be influenced by the efforts of Filipino builders.

Locally, the BUILD BUILD BUILD Program of the Duterte administration is attracting local and foreign businesses to invest either directly in construction works or in other businesses that require massive construction.

These new opportunities in the Philippines and elsewhere call for the crafting of a long-term plan for the continued growth of our construction industry. The Philippine Construction Industry Roadmap 2020-2030, crafted by all stakeholders, with the proactive facilitation of the Department of Trade and Industry and the Philippine Constructors Association, is a landmark document that will guide contractors of the Philippine in future construction works; ensure the collective commitment of Filipino contractors to aspire for excellence in building stronger, safer and better structures throughout the world; and give them a more significant part in our country's development.

The House of Representatives of the 17th Congress congratulates the PCA and the DTI for coming up with this Roadmap, and supports all efforts to rationalize the Philippine construction industry and make it grow stronger and more globally competitive, I hope that future Congresses will likewise provide the same level of encouragement that will make the construction industry more sustainable and more important contributors to Philippine progress.

Gloria Macapagal-Arroyo

Message of the Secretary of the Department of Trade and Industry and Governing Board Chairman of the Construction Industry Authority of the Philippines

The Philippine Construction Industry Roadmap 2020-2030 is a milestone for the Construction Industry.

It is a result of the collective aspirations of industry stakeholders hopeful of instigating reforms critical to further spur the growth and development of the industry and accordingly, the Philippine economy.

Tatag at Tapat 2020-2030, this is our battle cry, a construction industry that upholds transparency, honesty, and excellence. The Roadmap is our blueprint for the construction industry's progress into the future. I am confident that the ongoing partnership between the government and private sectors will foster a collaborative environment necessary to support the growth momentum of the construction industry.

Our goal—a nation where all Filipinos can enjoy the fruits of our country's inclusive growth—is something that we can dream to achieve.

Ramon M. Lopez

Message of the Industry Sector Representative

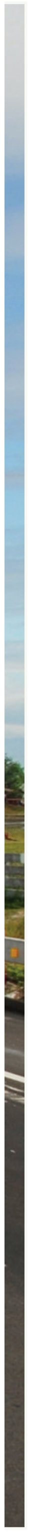
This Construction Industry Roadmap 2020-2030 that we closely worked on with the Department of Trade and Industry - Construction Industry Authority of the Philippines and other stakeholders, lays down the foundation in transforming the industry to be a global partner in building nations.

The Philippine Constructors Association was organized in 1945 to help the country get back on track after the Second World War.

As we mark our 75th anniversary in 2020, we again find ourselves in a historic opportunity of helping build a stronger and more resilient nation, especially in a world that is changing faster than ever before.

Morris S. Agoncillo
President
Philippine Constructors Association

Executive Summary



Despite the global stance towards a fourth industrial revolution, where everyone is embracing technology to fill up their need for human capital, our country continues to nourish intelligence that is not artificial, bursting with creativity, and needing only access to modern training and technology to unleash their potential.

There is a contrast with the momentum shift we are experiencing and the changes in the world economy. Our pace has picked up, triggering the increase in construction projects in recent years. This shift in momentum is further accelerated by the government's headstrong program "BUILD BUILD BUILD", which opens up more opportunities for the various industries and players to participate and contribute. We have reached this level of growth way before we have even started to imagine our role in the fourth industrial revolution. All we have held on to is each other—the talented and ingenious human capital that vitalizes our construction businesses and all the industries they empower.

These are exciting times that portend an achievable and promising future for the Philippines only if we decide together to take ownership of it today. We need to direct our energies, harness this momentum, and cement our resolve to lay down the foundation of a strategic and synergized construction industry. It would be fatal, grim, and destructive for us if we fail to act now as one. All the materials for this foundation are already present. What we need is to mold our collective wills to serve as the formwork of this foundation. This is why we have crafted this roadmap.

This Roadmap, at its very core, is driven by the desire to provide a stronger, more solid and stable future for the Filipino family. It envisions a modern, efficient, future-oriented, and globally competitive construction industry that is integral to nation-building. This Roadmap aims to:

1) **improve the quality** of construction services, consistent with the **principles of sustainability**.

2) **increase the number** of globally competitive Philippine players with **expanded scope, scale, and specialization of services**.

3) **equip the whole project cycle** with efficient and modern technologies, founded on a **culture of integrity, professionalism, and innovation**.

4) **strengthen the institutions** so that the other three goals can be achieved.

This entails a strong government leadership reinforced by a network of public and private institutions working towards inclusive development. Accomplishing all these, we can fulfill our inevitable role as a **GLOBAL PARTNER IN BUILDING NATIONS**, becoming the vitality that the world economy needs.

This Roadmap presents the strategic convergence areas for shared commitments of all stakeholders of the Philippine Construction Industry in terms of policy reform, infrastructure master planning and delivery, and institutional strengthening programs, echoing the core value we all committed to uphold: Integrity, which is the soul of our battlecry "***Tatag at Tapat***." All of these are aimed at the very concrete goal of building a nation that nourishes the Filipino family that desires a life that is "***Matatag, Maginhawa, at Panatag***".

Highlights of the Philippine Construction Industry

Construction Industry Situationer: 2010-2018

PERFORMANCE

Fastest growth; high output and employment multipliers

Profitable in key segments; Private sector projects are **twice the size** of Public infrastructure

Big players becoming bigger and more vertically and horizontally integrated

Purely **domestic** orientation

Subsistence operation for Small players

Low labor productivity

Shortage of licensed / qualified contractors to serve approximately **180,000** projects/year

CONDUCT

Limited emphasis on quality, sustainability, and safety

Low adoption of technology resulting in fewer innovations and lower productivity

Bureaucratic inefficiencies, collusion, and corruption

INSTITUTIONS

Government construction priorities, plans and budgets are determined separately by each implementing agency with different timelines subject to policy changes under each administration

Growing multi-stakeholder partnership and collaboration

Initiated discussions on biodiversity-sensitive strategic environmental assessments and regulations for developing a built environment together with preservation of the ecosystem

Need for stronger Construction Industry Authority of the Philippines, especially its regulatory and developmental mandates, with adequate resources

Opportunities and Challenges: 2019-2030

GLOBAL

Advanced economies are slowing down and aging; **ASEAN still young and growing**

Advanced technology available and becoming more available

Rising geo-political and trade-related risks

PHILIPPINES

Economy: **6.3% annual growth** over the last 10 years; Young, growing population; Financial liquidity

Potential growth area for developing innovations, upgrading MSMEs, job generation, and uplifting lives

Government focused on BUILD BUILD BUILD legislative reforms, industry roadmapping and development; increasing budget allocation for stronger and integrated plans, support, and regulations

TATAG at TAPAT 2020-2030

Philippine Construction Industry Roadmap

Key Roadmap Program Clusters

- Network Partnerships and Collaborative Governance among Players and Stakeholders
- Adoption of Modern and Digital Technologies
- Upscaling of Human and Firm Capacity
- Biodiversity-Sensitive Development
- Strong Government Leadership and Regulations

A GLOBAL PARTNER IN BUILDING NATIONS

PRODUCTIVITY

Equipped with efficient, modern, and digital technologies founded on a culture of integrity, professionalism, and innovation

SUSTAINABILITY

Improved quality of construction services, consistent with the principles of sustainability

GLOBALIZATION

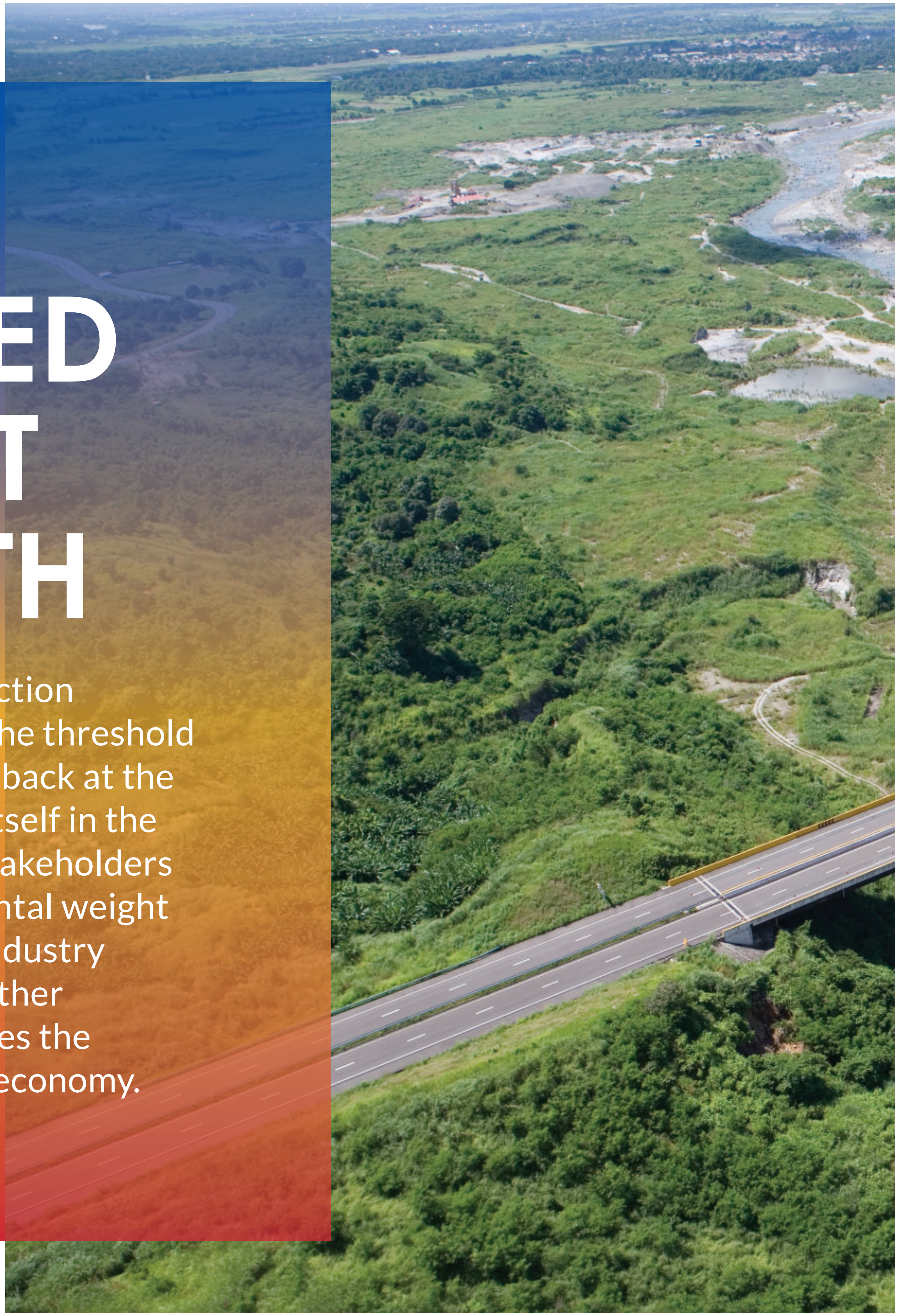
Globally competitive players with increased scope, scale, and specialization of services

INSTITUTIONS (PUBLIC & PRIVATE)

Strong government leadership and regulations supported by a highly interconnected network of private institutions working towards inclusive development

PART I: THE NEED TO PLOT THE PATH

The Philippine Construction Industry finds itself at the threshold of the future as it looks back at the roadmap it has set for itself in the past. The players and stakeholders recognize the fundamental weight that the construction industry carries in affecting all other industries that influences the growth of our national economy.



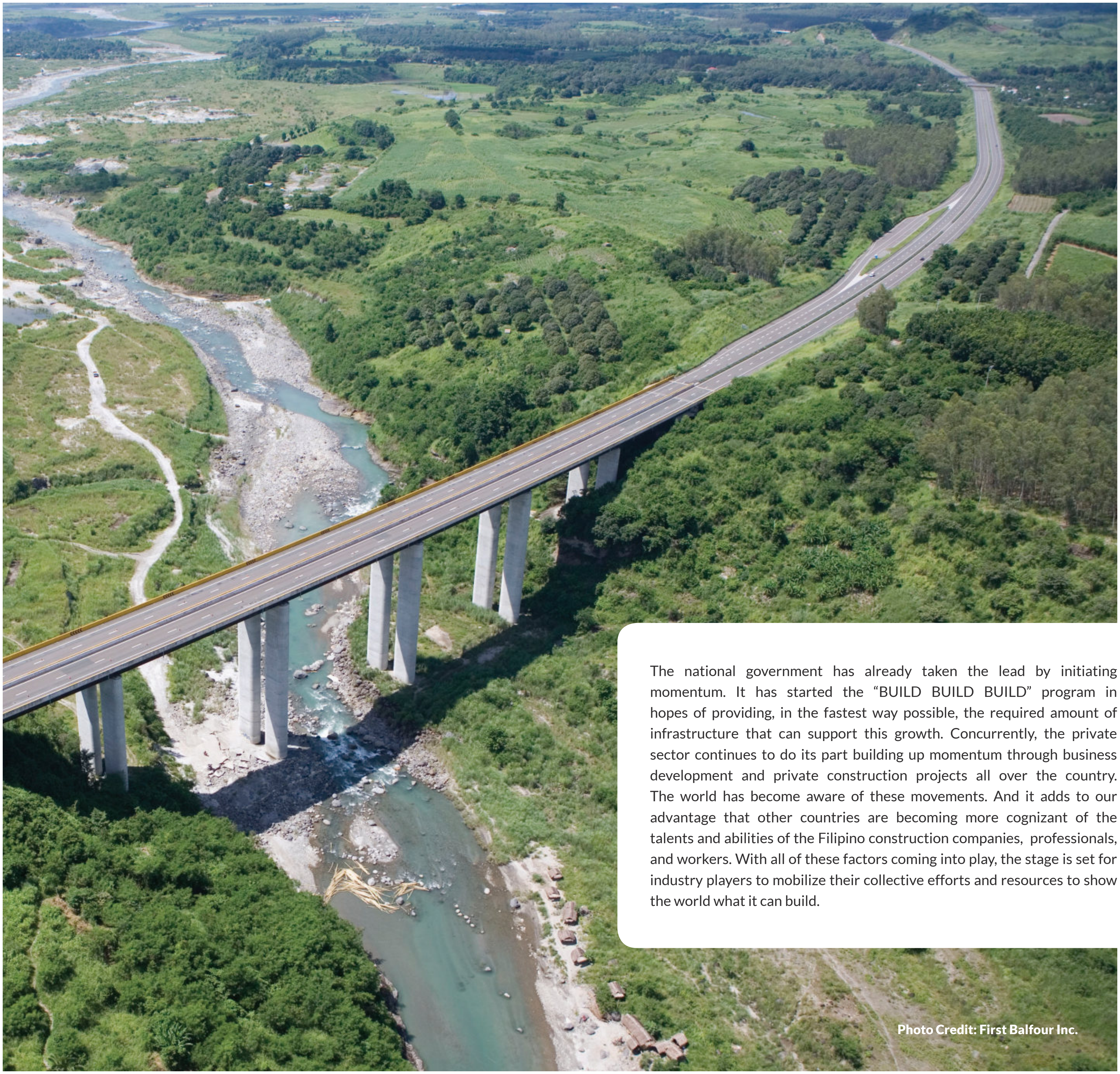


Photo Credit: First Balfour Inc.

The national government has already taken the lead by initiating momentum. It has started the “BUILD BUILD BUILD” program in hopes of providing, in the fastest way possible, the required amount of infrastructure that can support this growth. Concurrently, the private sector continues to do its part building up momentum through business development and private construction projects all over the country. The world has become aware of these movements. And it adds to our advantage that other countries are becoming more cognizant of the talents and abilities of the Filipino construction companies, professionals, and workers. With all of these factors coming into play, the stage is set for industry players to mobilize their collective efforts and resources to show the world what it can build.

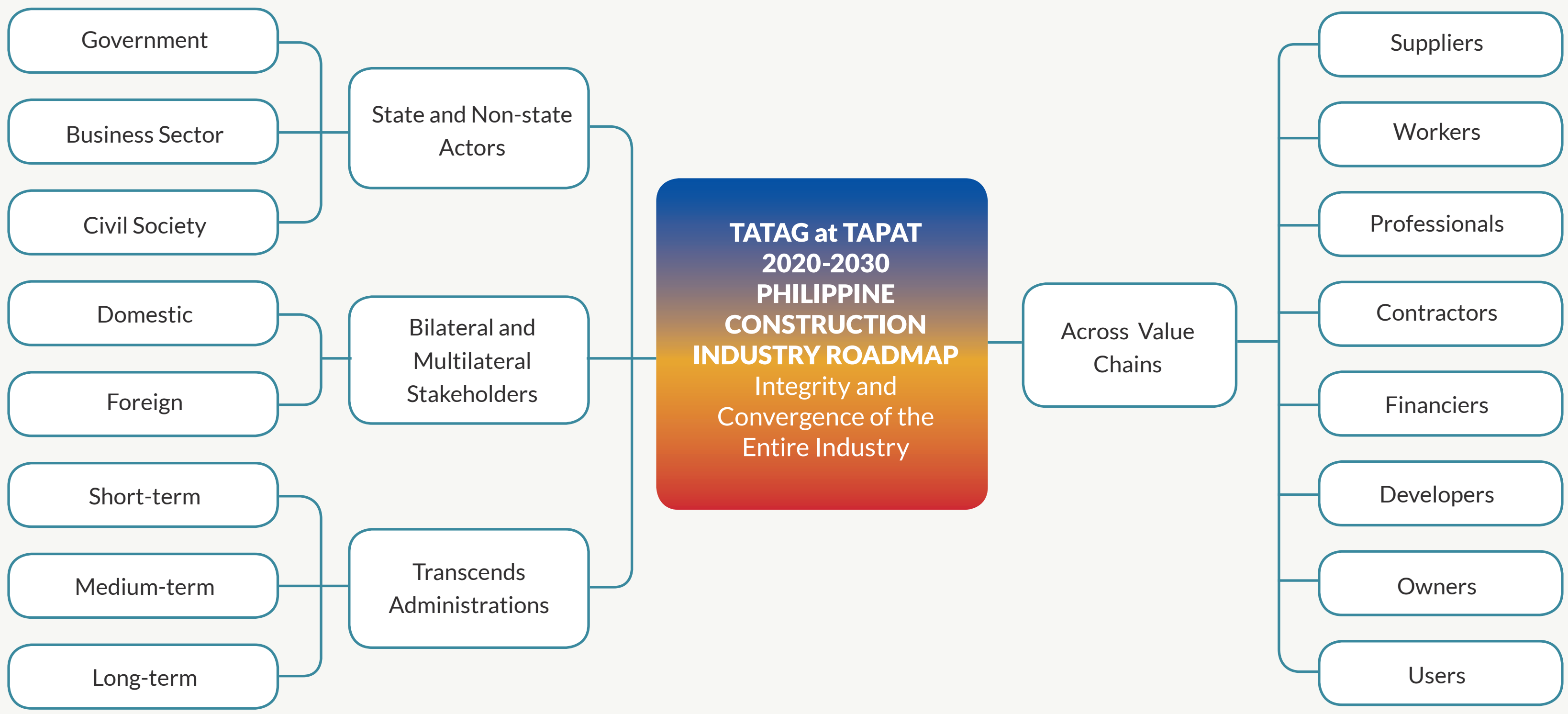
About this Roadmap

This Roadmap is a strategic formwork of the future of Philippine construction.

It aims to shape the future capacity, values, and institutional integrity of the entire industry for the next ten years. **This Roadmap functions both as the institutional mechanism for communication and collaboration, and as a continuing testament of the commitments made by the stakeholders, whether private, public, domestic, or foreign.** This serves as the guiding document in creating platforms of convergences that facilitate the sharing of plans, programs, insights, and best practices from government and the private sector in order to build on each other's strengths, address systemic weaknesses and gaps, and face the evolving challenges of the construction industry.

This document is not a masterplan, but rather presents the framework that will consolidate and harmonize the implementation efforts of all existing and future masterplans of the government and the private sector. This is not a legislative agenda of the construction industry. Rather, it is a documentation of strategies and criteria to synchronize and expand the regulatory reform initiatives in consonance with the implementation of constructions projects listed in the various masterplans.

This Roadmap is a product of the initiative of the Department of Trade and Industry - Construction Industry Authority of the Philippines (DTI-CIAP) in partnership with the Philippine Constructors Association (PCA) with technical assistance from the Research, Education and Institutional Foundation (REID). This team-up of government, the private sector, and a policy think tank ensure that a more balanced, holistic, and inclusive approach in crafting this Roadmap is attained.



Industry Battlecry: TATAG at TAPAT 2020-2030

After a series of comprehensive consultations and discussions, the stakeholders of the Philippine Construction Industry agreed to anchor their vision of the future on two core values—***TATAG at TAPAT***.

These values, which can ultimately be encapsulated into a single multi-layered English word—INTEGRITY—evokes the kind of strength that the industry aims for in the next decade. It is a strength that is manifested outwardly, reflected in the stability of structures, institutions, systems, and infrastructure; and a strength that is primarily internal in nature, reflecting the desire of the stakeholders to uphold transparency, honesty, and a strong adherence to standards of excellence.

These values prepare the industry and its players to become productive contributors and drivers of economies in a global scale. Our desire for ourselves in the next decade, therefore, is to reinforce, or in a sense, build and rebuild ourselves, so that we can extend our collective creative energies not just to our neighbors in the region but to the entire world.

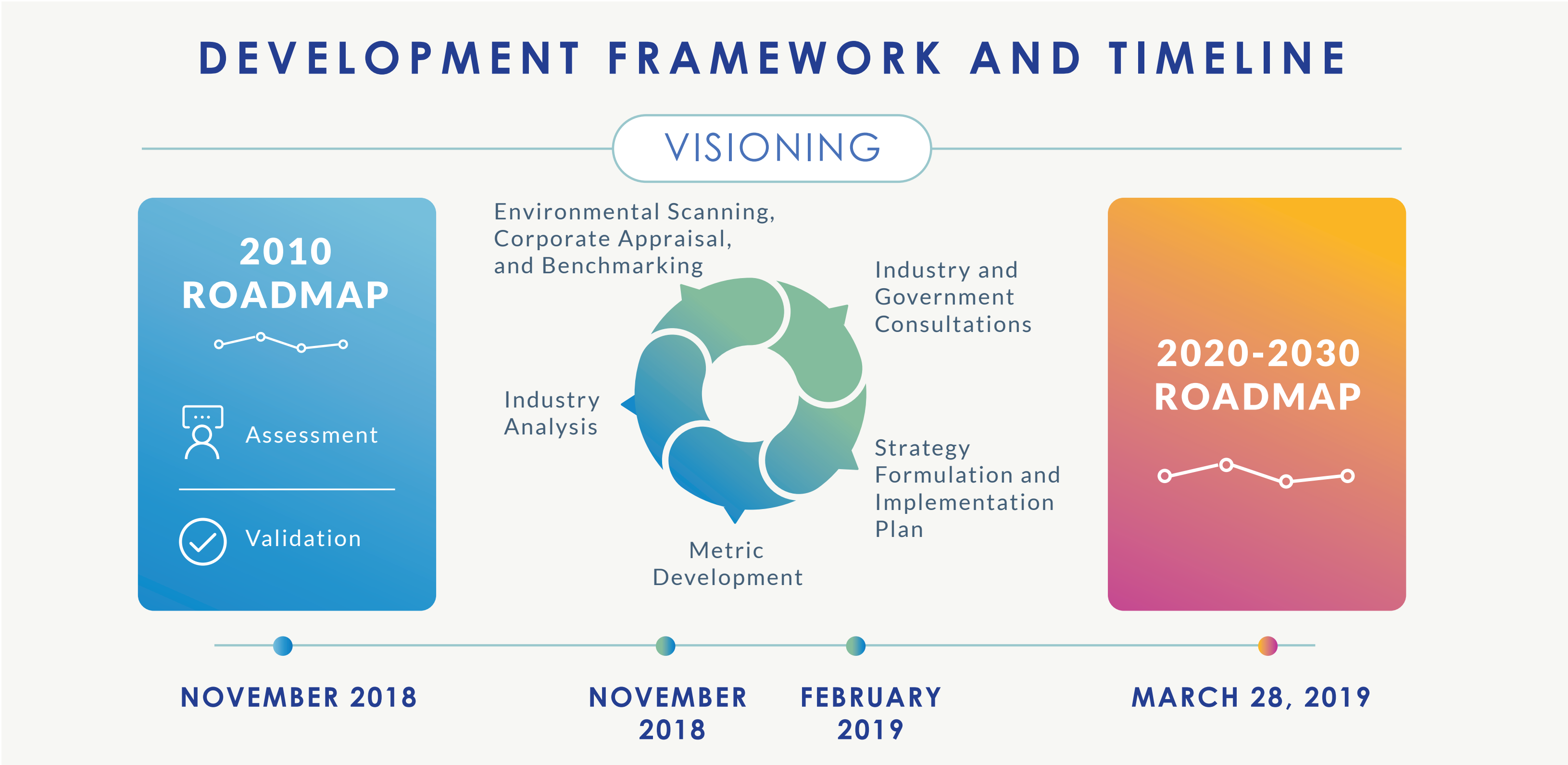
The Philippine Construction Industry is on track towards growth but there may have been setbacks, issues, and obstacles that slowed down our pace. The pillars, or more appropriately metaphorized in this roadmap, the drivers of the industry, remain—Institutions, Productivity, Sustainability, and Globalization. After some reflection and an examination of our industrial conscience, we are committed to renew our resolve to pursue our vision of the industry in 2030 by strengthening these pillars.

TATAG, in Filipino, denotes strength, stability, and resiliency. It also means integrity and fortitude. ***TATAG*** encompasses not just productivity and sustainability, because a strong and productive industry can be a lasting and prosperous industry, but also institutions and globalization, because institutions always need to be strong for them to support an ever-growing industry; and globalization requires strong individual markets and industries even before they link up.

TAPAT, in Filipino, conveys being truthful, honest, and loyal. It means that the execution of construction projects is faithful to the purpose of the project, the right project designs, correct standards, real costs and prices that are transparent and just to all stakeholder including contractors, suppliers, financiers, developers, operators, workers, owners, taxpayers, consumers and end-users. ***TAPAT*** also connotes being sufficient, exact, and fitting. We recognize the challenges we have faced in the past years and that a return to our core values—integrity and honesty—will bring back the market's trust and confidence in the ability of the industry to contribute greatly to the national economy. ***TAPAT*** also means "to match" or "to show a counterpart effort", which implies partnership and collaboration. This corresponds to Institutions and Globalization; in so far as institutions embody a greater resolve in championing integrity, transparency, and honesty, and in so far as global players in every sector continually seek to link up, collaborate, and match strength for strength, contribution for contribution.

TATAG at TAPAT together means that the stability and renewed strength we aim for is rooted in integrity that becomes evident in all construction activities from the regulatory and procurement processes down to the workmanship, design specifications and functional quality of the structures to be built under this global brand. Given all these challenges, the stakeholders, the key players recognize that focusing on these two core values can serve as a suitable battlecry that can summarize our collective drive to traverse with enthusiasm and vigor, the road we set ourselves to journey through in the map of the future that we drew here.

Cartography of our Future

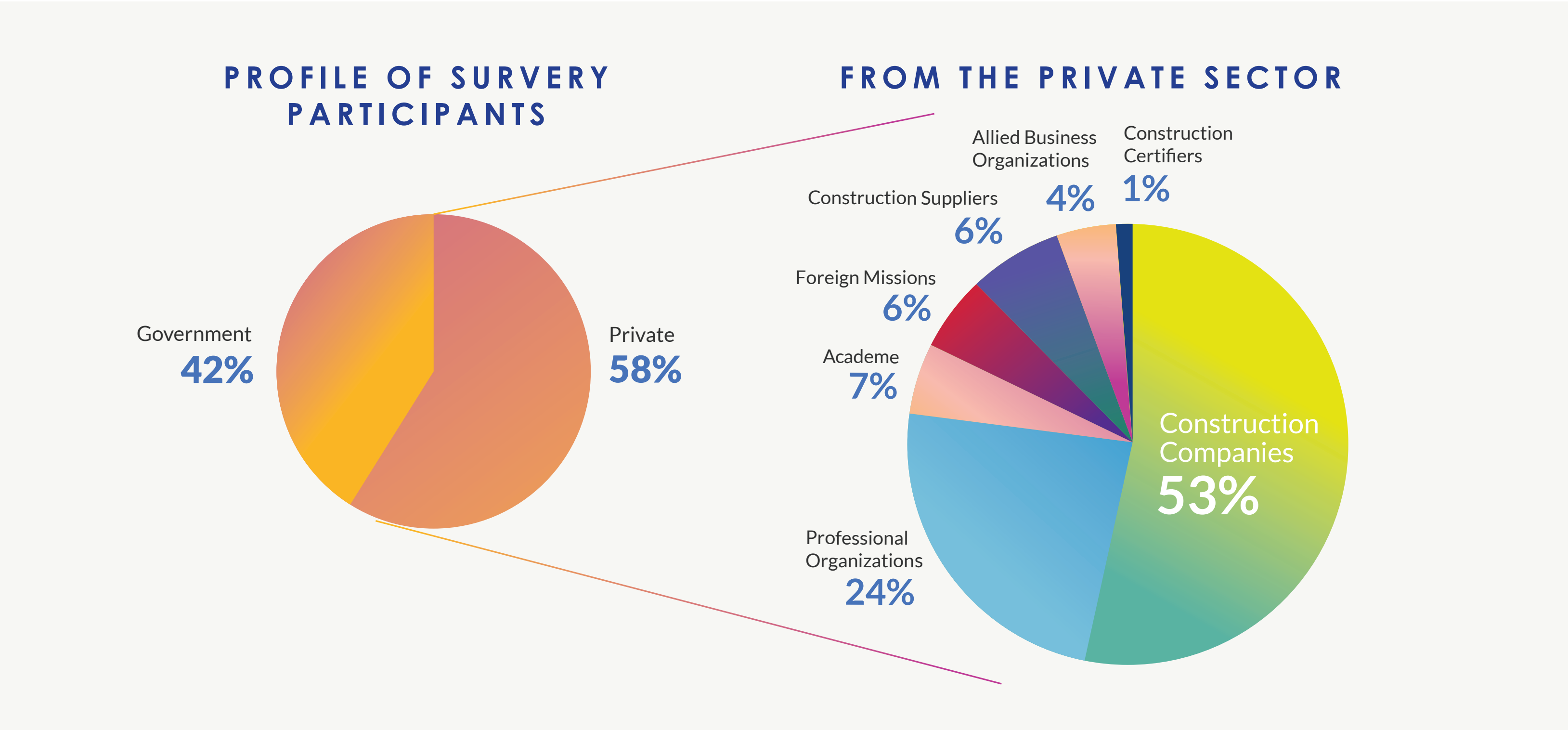


The Roadmap was drawn through an iterative three-phase framework involving collaborative work from various stakeholders of the industry.

Phase 1 prepared the assessment of the previous Roadmap to analyze which of the previous recommendations are still relevant to today's context and identify lingering issues. This was validated by a series of consultations coupled with desktop research. The unfulfilled recommendations underwent further re-assessment with regard to their alignment with the current agenda of the national government prior to reintegration in this updated Roadmap for the next decade.

Phase 2 involved an industry analysis after conducting a new round of industry and government consultations to draw out strategy and implementation plans, and develop metrics to provide a clearer industry situationer. These simultaneous processes proved successful due to the collaboration and active participation of industry stakeholders and multiplayers. The technical working group received inputs from over 300 individuals from various stakeholders representing both the public and private sectors including industry regulators, policy makers, professional organizations, and the academe. The number of stakeholders is expected to rise upon and during the implementation of the Roadmap.

The four pillars on Institutions, Productivity, Sustainability, and Globalization were identified following an industry analysis.



Public consultations were held with the following government agencies and entities: Techincal Education and Skills Development Authority (TESDA), Public-Private Partneship (PPP) Center, Philippine Overseas Employment Administration (POEA), Department of Labor and Employment (DOLE), Department of Foreign Affairs (DFA), Department of Environment and Natural Resources (DENR), Department of Energy (DOE), Commission on Higher Education (CHED), Department of Public Works and Highways (DPWH), Department of Science and Technology (DOST), Department of Transportation (DOTr), Government Procurement Policy Board (GPBB), Overseas Workers Welfare Administration (OWWA), National Housing Authority (NHA), National Economic and Development Authority (NEDA), Department of Education (DepEd), Philippine Competition Commission (PCC), Philippine Accreditation Bureau (PAB), Commission on Filipinos Overseas (CFO), Bases Conversion and Development Authority (BCDA), Department of Trade and Industry (DTI) -Board of Investments (BoI), Export Marketing Bureau (EMB), Bureau of International Trade Relations (BITR), Foreign Trade Service Corps (FTSC), Competitiveness and Ease of Doing Business (CEODB), Construction Industry Authority of the Philippines (CIAP) , Philippine Overseas Construction Board (POCB), Philippine Domestic Construction Board (PDCB), Philippine Contractors Accreditation Board (PCAB), Construction Industry Arbitration Commission (CIAC), Construction Manpower Development Foundation (CMDF))

This Roadmap used the dynamic Structure-Conduct-Performance (S-C-P) framework, which incorporates feedback effects of the industry conduct and performance in further affecting the structure and profile of the players. This initial finding was later collaborated during consultations with government and industry resource persons as well as a environmental scanning, corporate appraisal, and benchmarking of similar roadmaps from other countries. Phase 2 also included strategy and implementation plan formulation, and development of metrics, based on the results of the interviews and the Focus Group Discussions (FGD).

Finally, **Phase 3** identified the final framework and strategic areas for further action planning, detailed budgeting for programs and activities, and scheduling. Specific responsible agencies and appropriate units shall be identified, together with the necessary foundations to ensure the implementation of this Roadmap. These framework and strategic areas were approved by the CIAP Board on February 18, 2019.

In summary, this Roadmap is grounded on an iterative process that repeatedly engaged both the public and private sector in successive rounds of discussions, research, analyses, and synthesis towards the development of the common vision, and the common platform towards the continued convergence of efforts among all industry players and stakeholders.

Roadmap Vision and its Pillars

This is what the Philippine Construction Industry envisions itself to become by 2030.

This vision is founded on two fundamental aspirations: being partners and being global. As globalization accelerates its pace and as economies around the world continue to expand and integrate with the aid of digital and other modern technologies, the industry needs to catch up to this trend and go global—to enhance its competitiveness in order to suitably address the evolving needs of the domestic and global markets—and strengthen the sector's ability and readiness to form strategic partnerships locally and globally in building better and sustainable infrastructure within the Philippines and their corresponding home countries for future generations.

To achieve these two intertwined aspirations, the construction industry must leverage on its critical role in the nation's economy as the key contributor as the fastest growing industry into building a solid foundation and sustainable economic engine to spur further growth beyond the local and national level.

Alignment with the National and International Development Agenda

This Roadmap is consistent with and contributes to the Philippine Development Plan (PDP) 2017-2022 which:

1. provides concrete steps in realizing our collective long-term vision for the Filipino people and the country set forth in ***AmBisyon Natin 2040***, and
2. supports the Philippines' commitment to achieving the ***United Nations' Sustainable Development Goals (SDGs).***

The implementation of this Roadmap will directly contribute to building the right foundations for inclusive and sustainable development as espoused in the PDP 2017-2022 and SDGs. Specifically, this Roadmap is aligned with:

- **Accelerating Infrastructure Development** (Chapter 19 of PDP) through the sustained high spending on infrastructure and efficient delivery of public infrastructure based on the platform of good governance. (Chapter 5 of PDP)

- **Building Safe and Secure Communities** (Chapter 12 of PDP), and Sustainable Cities and Communities (Goal 11 of SDG) through building socioeconomic resilience that will allow more families to enjoy comfortable and secured lives;

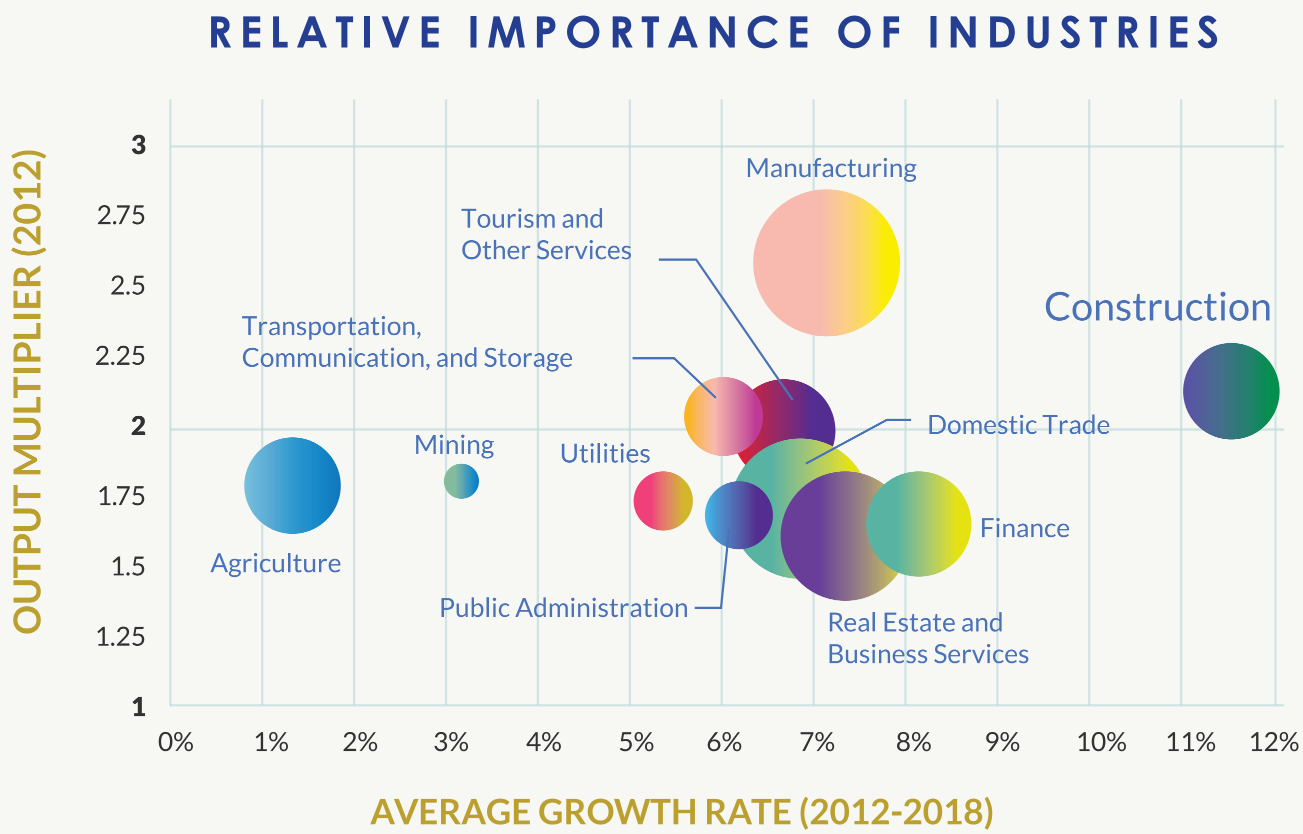
- **Ensuring Ecological Integrity, Clean, and Healthy Environment** (Chapter 20 of PDP), and Industry, Innovation and Infrastructure (Goal 9 of SDG) through building structures that are ecologically sustainable and biodiversity -sensitive

- **Leveling the Playing Field through a National Competition Policy** (Chapter 16 of PDP) through enhancing market competition and introducing regulatory and policy reforms Stimulating investments and innovation (Chapter 14 of PDP)

- **Expanding Economic Opportunities in Industry and Services through Trabaho and Negosyo** (Chapter 9) supported by Accelerating Human Capital Development (Chapter 10) and Encouraging Innovation and Adoption of New Technologies (Chapter 14) in the construction sector that will enhance productivity and improve the lives of the construction workers.

PART II: WHERE WE ARE IN THE MAP


Photo Credit: Luca Bucken, www.unsplash.com



- Size of bubble: Nominal Gross Value Added (GVA) in 2018
- Growth Rates of Constant GVAs
- Source of Basic Data: Philippine Statistics Authority, National Income Accounts
- Analysis and Forecast: REID Foundation

The Construction industry has the triple-advantage of being the fastest growing industry in the last six years, having the second highest multiplier impact to the economy (next to manufacturing), and being a top contributor to gross value added.

In 2018, real growth in construction reached 15.9% to become the only business sector with double-digit real growth - the fourth time in the last seven years. During this period of sustained growth, the industries' growth fueled an additional 0.7 percentage point to GDP growth per year on average - or 11% of all GDP growth for the period, next to manufacturing, domestic trade and business services including real estate, and ahead of other services including tourism, finance, transport and communication.

More importantly, the industry has the second highest output multiplier of 2.2, which means that a Php 1 investment in construction will, in return, generate a total of Php 2.2 to the national economy inclusive of all direct and indirect effects. Finally, the industry remains a top contributor to GDP with a 7.8 percent share which is higher than transport and communications and nearly equal to agriculture and forestry.

Construction Market Size and Share to Economy

GDP BY EXPENDITURE APPROACH

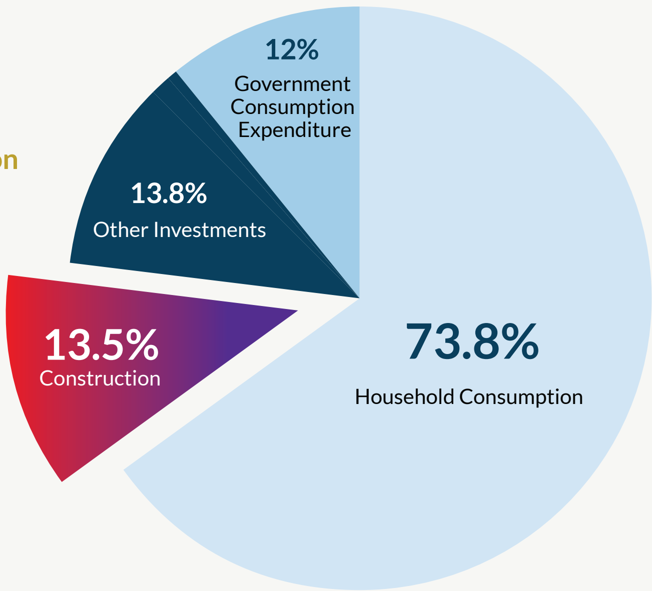
2018 Nominal GDP = Php 17.4 Trillion

The Construction Industry has

Php 2.3 Trillion

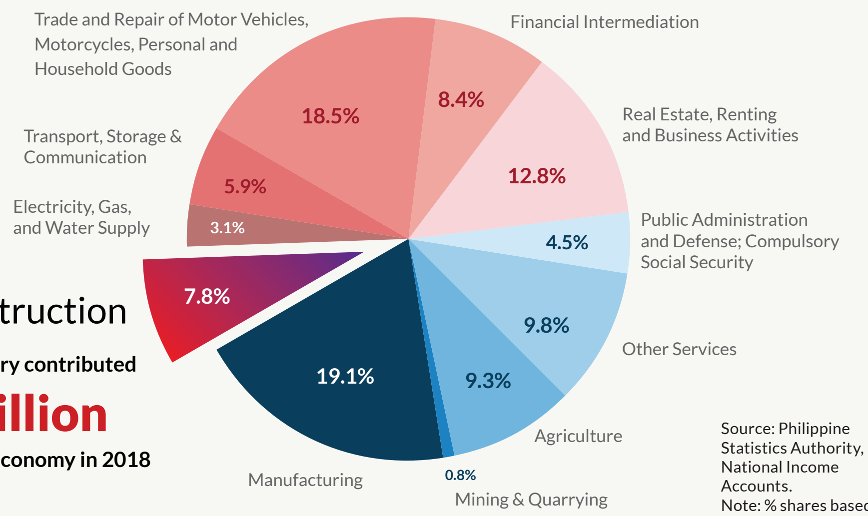
In Gross Value for the Economy in 2018

Source: Philippine Statistics Authority, National Income Accounts
Note: Graph shows % of GDP, and excludes Net Exports, which have a substantial negative amount.



The significant contribution of the Construction industry to total investments is evident in consistently accounting for over half of total capital formation generated in the country since 2012 - which is equivalent to over 12% of GDP in the past six years and rising to 13.5% of GDP in 2018.

DIRECT VALUE ADDED TO NATIONAL ECONOMY



The Construction Industry contributed

Php 1.3 Trillion

In Gross Profits for the Economy in 2018

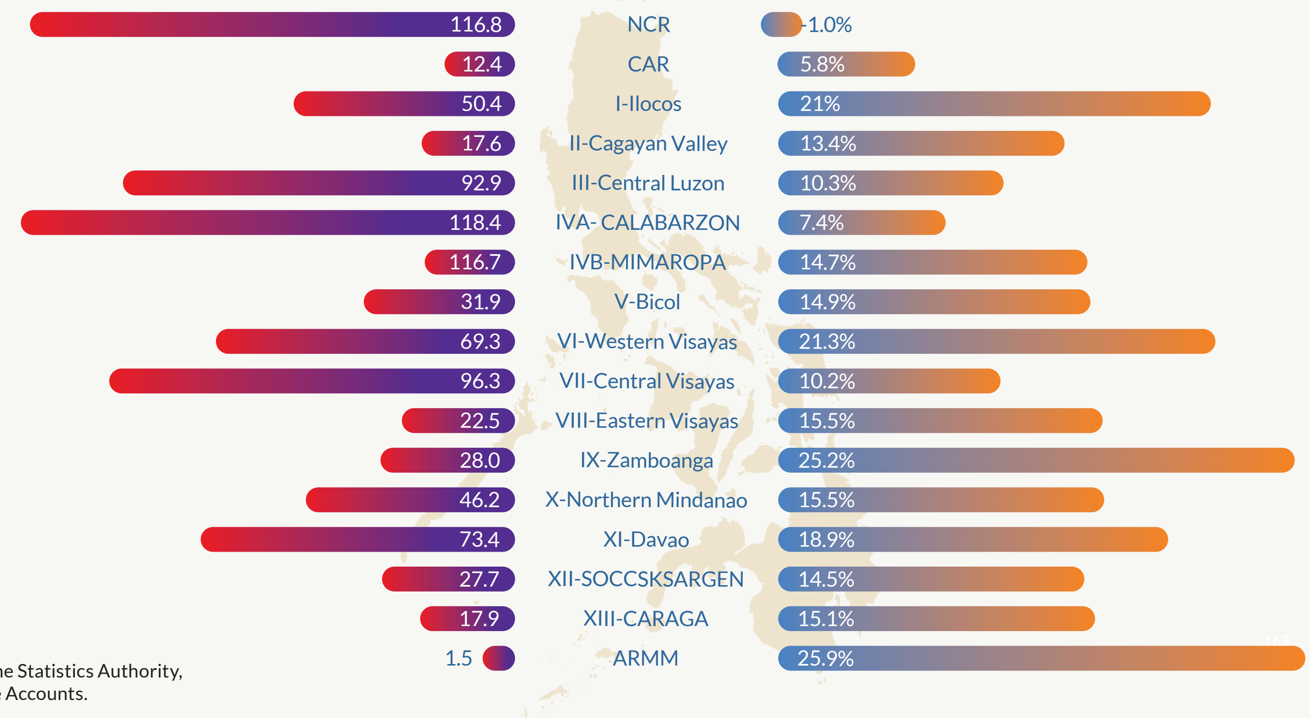
Source: Philippine Statistics Authority, National Income Accounts.
Note: % shares based on nominal values.

The share of the industry in terms of gross value added to the national economy has consistently been on a rise annually since 2005 when it stood at 4.7% of GDP to reach 7.8% of GDP in 2018.

REGIONAL CONSTRUCTION BUSINESS

In 2017 Value (in Php Billion)

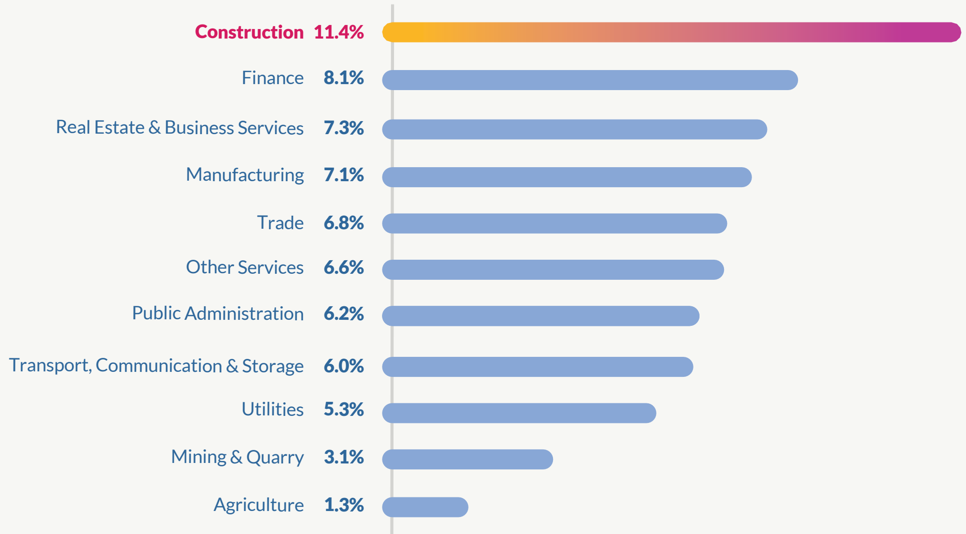
2012-2017 Average Annual Growth Rate (%)



Source: Philippine Statistics Authority, Regional Income Accounts.

GROWTH RATE PER INDUSTRY

(Annual Average: 2012-2018)



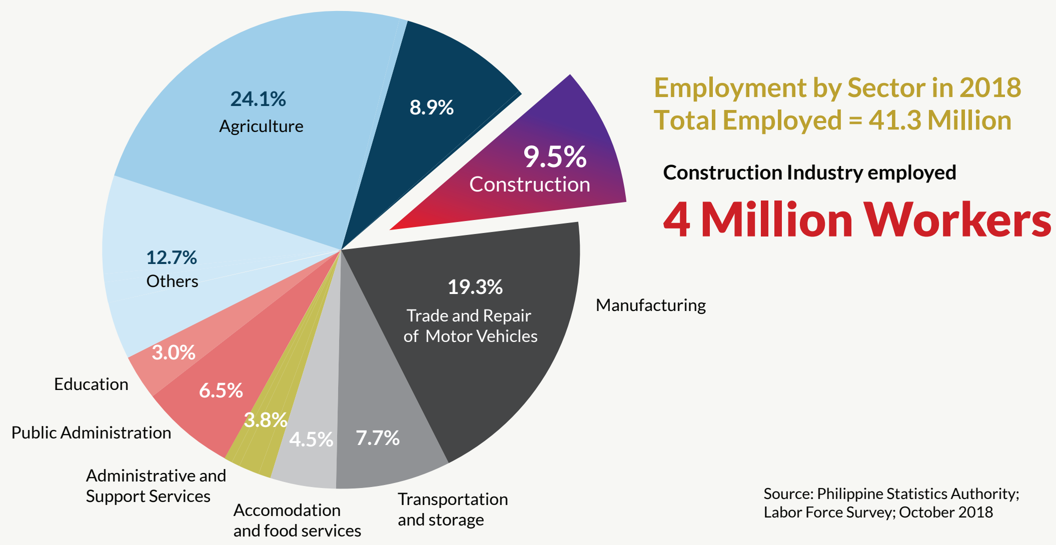
Source of basic data: Philippine Statistics Authority, National Income Accounts.

Construction and Job Creation

Likewise, the Construction industry currently provides direct employment to nearly 4 million workers including roughly 84,000 workers employed in architectural and engineering services. This translates to 9.6% of total employment and 9.1% of the country's total labor force. Moreover, this industry is the fourth highest per unit investment generator of direct and indirect employment, producing close to 4,000 jobs per Php 1 billion of investment in the industry - higher than manufacturing, tourism, and transport-logistics.

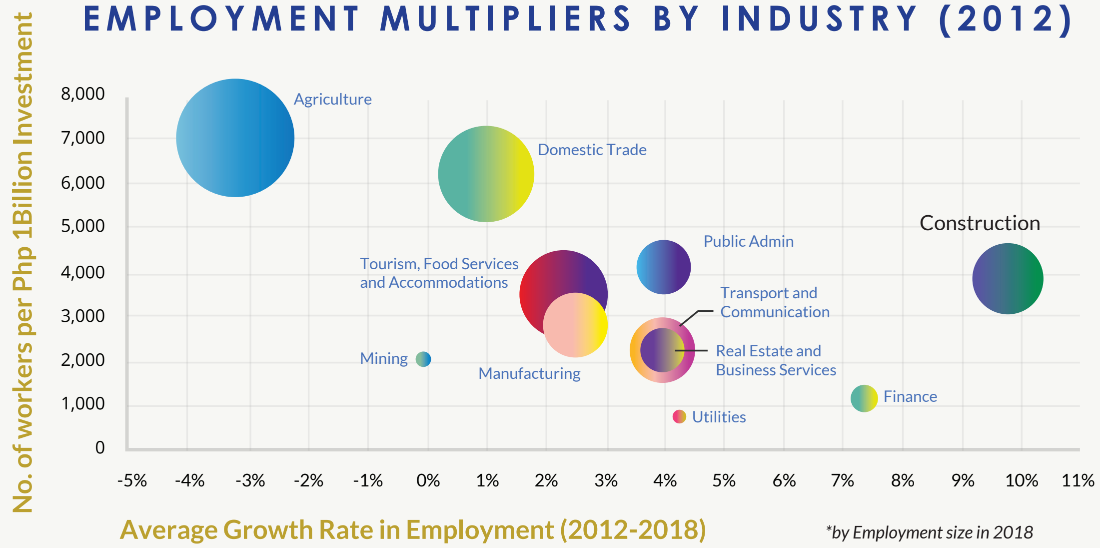
For these reasons, the Construction industry is in the best position to pull the rest of its supplier industries forward as well as continuously provide for its customer-sectors, thus further accelerating the nation's industrial and macroeconomic performance. It is clear, therefore, that the Construction industry is the key to job creation while enhancing the nation's economic competitiveness. It has deep backward linkages as the key client to over 60 industry sectors such as non-metallic mineral products and the manufacturing of iron, steel, rubber, and plastics. The sector has strong forward linkages as well - as the top 10 supplier of intermediate inputs to over 20 key industry sectors involving real estate, education, mining, public utilities, transport, manufacturing, and communication.

DIRECT CONTRIBUTION TO EMPLOYMENT



Source: Philippine Statistics Authority; Labor Force Survey; October 2018

EMPLOYMENT MULTIPLIERS BY INDUSTRY (2012)



Source: Philippine Statistics Authority
Analysis by: REID Foundation

Impact on Regional and Rural Development

Photo Credit: DPWH

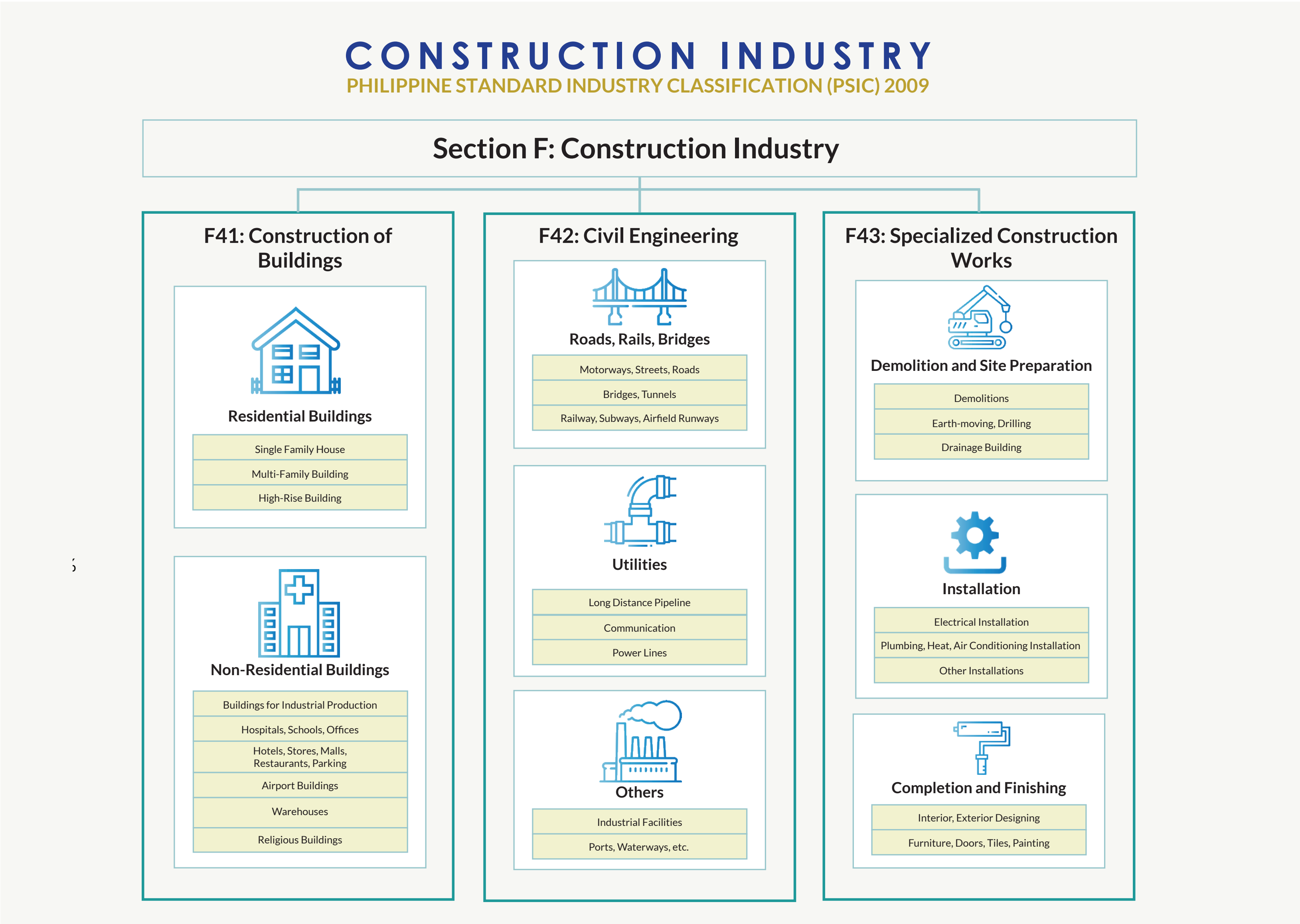
Infrastructure development across the Philippine regions and rural areas are integral to the current national development policy. As stated in the Philippine Development Plan 2016-2022, the regional development thrust of the national government will be supported with suitable physical and human infrastructure (including affordable housing, quality education, and healthcare), other social and economic services, and efficient urban management. The National Spatial Strategy (NSS) recognizes the role of cities as engines of economic growth and venues of growth and poverty reduction, and that of infrastructure to provide efficient connective networks of sustainable urban and rural communities. Among the aims of NSS are the integration of leading and lagging areas and urban-rural linkages through transportation networks, and the improvement of access to social services to address institutional gaps in social infrastructure.

The provision of quality classrooms, rehabilitation of existing classrooms, replacement of seats, and procurement of furniture and fixture for school laboratories is integral to the successful implementation of the K to 12 Basic Education Program nationwide. These initiatives along with the building of new health centers at the barangay level in urban and rural areas will help ensure the functionality and sustainability of school and health facilities towards accelerating human capital development requirements consistent with the Sustainable Development Goals of the country. The construction of socialized housing for disaster-resilient housing and livable settlements will ease the deepening housing shortage facing informal settler families, especially those residing in dangerous areas and displaced by calamities.

> The potential role of construction in raising average incomes at the regional level is based on the strong positive correlation between the share of construction to regional GDP and regional GDP per capita with an **estimated 0.4% rise in regional real incomes for every 1% increase** in the share of construction to regional GDP on average.

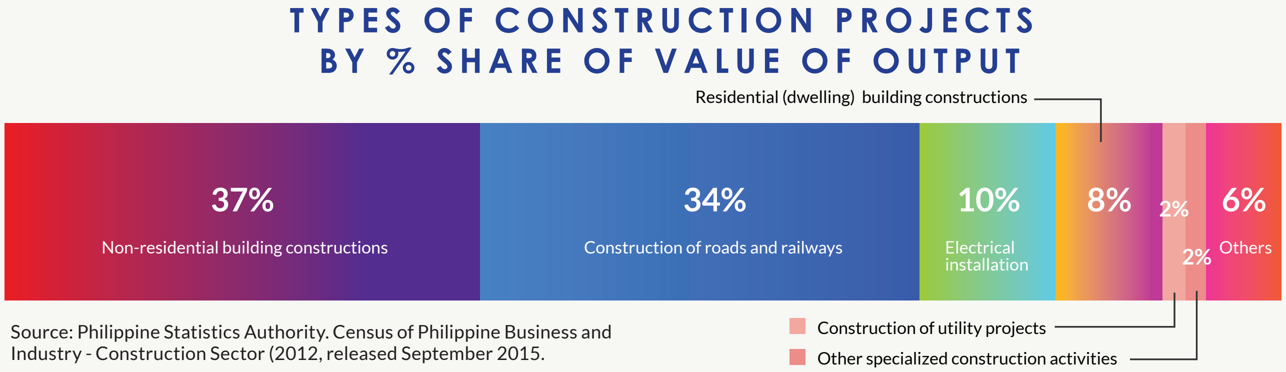
This existing paradigm is supported by the fact that the regions with lower than average incomes are experiencing faster growth in construction above 10 percent in the past five years compared with the richer regions closer to the National Capital Region (Metro Manila) such as Region III (Central Luzon) and Region IV-A (CALABARZON).

Industry Definition and Production Process



Based on the PSIC illustrated above, it is evident that unlike other industries, construction encompasses a wide scope of products and services that are diverse in their material and technical inputs depending on the specifications of the product-structure, and also universally required by all other sectors in the economy.

The composition of the Construction industry as currently defined under the 2009 industry classification codes is clearly based on the traditional notion of construction as a provider of structures. A possible reclassification to vertical, horizontal and complex types of structures is warranted to better reflect the requirements of the market.



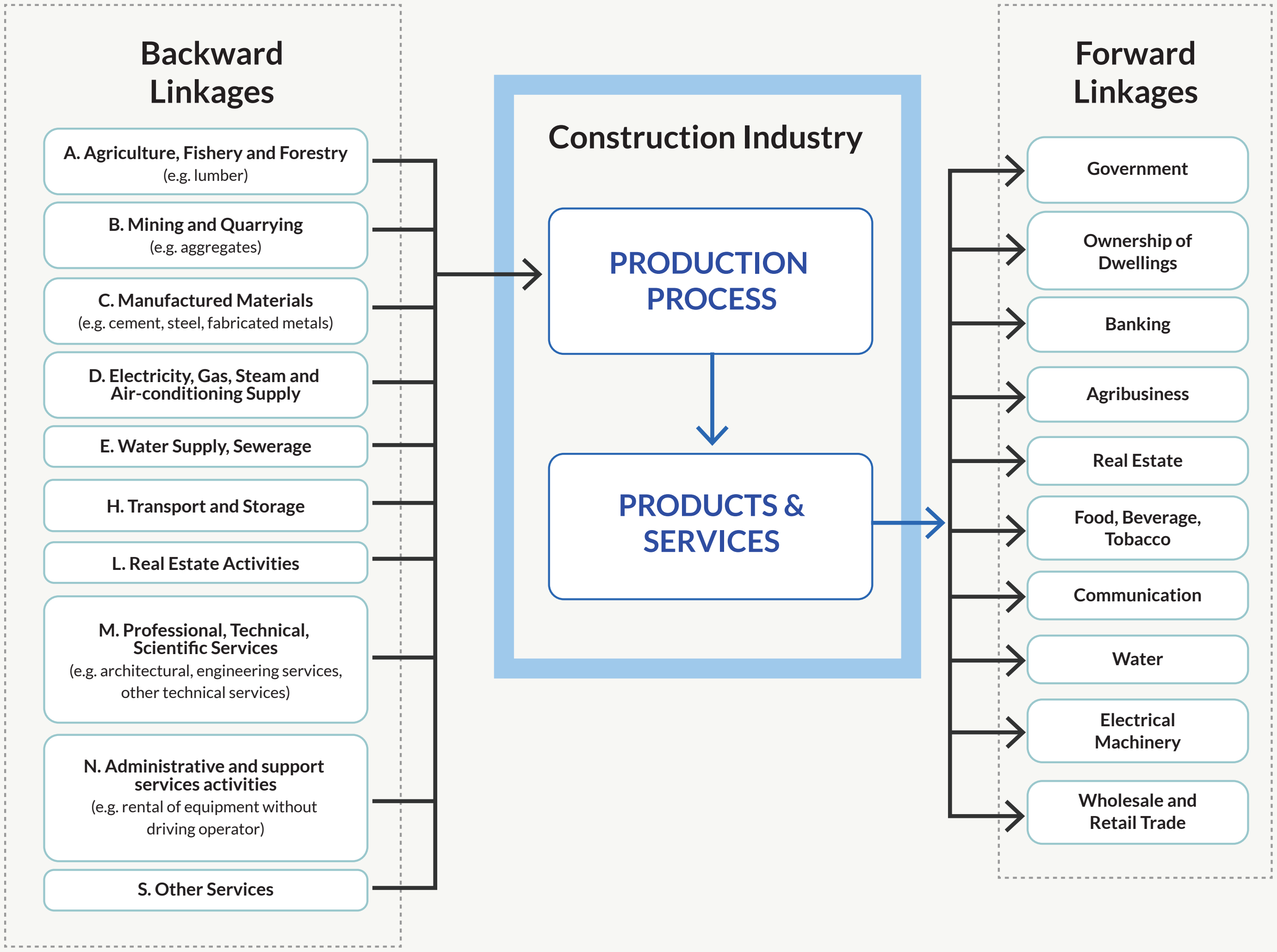
Source: Philippine Statistics Authority. Census of Philippine Business and Industry - Construction Sector (2012, released September 2015.

Production Process

This updated process map identifies the processes to which the application of modern technology such as digitization will be most beneficial. This service-oriented view recognizes the specific services across the supply chain such as project conceptualization, development, procurement; architectural and engineering design; project planning, contracting and execution; materials manufacture and logistics; credit and finance; insurance and suretyship; manpower supply, training and development; construction safety; and all other related activities as the priority subject areas of education and training programs to completely upgrade the competencies and qualifications of Filipino managers, professionals and workers for the global marketplace.

Each of these steps requires inputs from diverse industry sectors. For instance, all throughout the process, construction needs the technical expertise of architects, engineers, and designers from the professional sector. Lumber from forestry and aggregates from quarrying as well as iron, steel, and cement from manufacturing are vital raw materials for the actual delivery of construction projects. Likewise, the products construction generates from its three main sections (buildings, civil engineering, and specialized works) are used as additions to fixed capital by various industries and institutions such as government, banks, agribusiness, real estate, and others. Given its relatively wide scope, the Construction industry is one of the few industries which has strong backward and forward linkages with other industries.

BACKWARD AND FORWARD LINKAGES OF THE CONSTRUCTION INDUSTRY

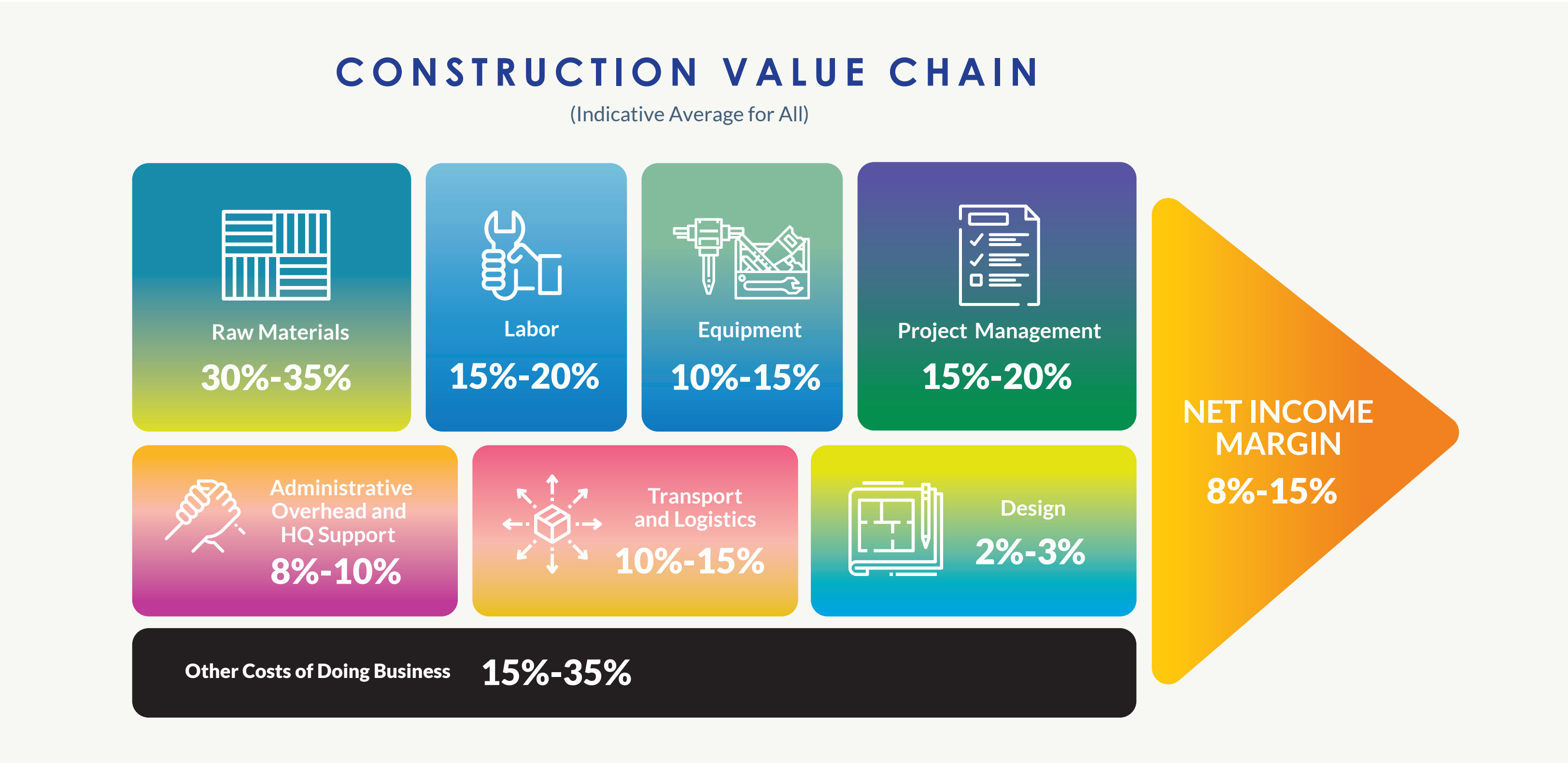


The high output multiplier of construction provides indicative evidence on the breadth and depth of the industry's backward linkages to its input suppliers of raw materials such as iron, steel, cement, and lumber, and of service providers involving transport and subcontracting across the country. The existence of such strong and deep linkages marks the current and growing potential inherent in construction to fuel economic growth that is foundational to all other business sectors, and also inclusive to its input supplier sectors as well as construction contractors, professionals, and workers. The wide geographical reach of its business network of suppliers and input service providers provides a suitable engine for growth at the national and local levels of development - where any forward movement of the construction industry will necessarily pull all the input industries forward while also enabling the expansion of all the forward linkage industries. In brief, this suggests that if a country seeks to strengthen its economy and, in particular, its industries, it is essential to consider investing in construction to erect the physical structures evidently required for any expansion of business and/or government presence and capacity for nation-building.

Industry Value Chain

The Construction Value Chain illustrates the detailed breakdown of the construction industry's mechanism. As shown in the chain, a great proportion of construction work involves the extraction of inputs from supplier industries, particularly raw materials which assume the highest proportion of costs at 30-35% followed by labor and equipment; meanwhile, on the support side, administration and logistics assume higher proportions.

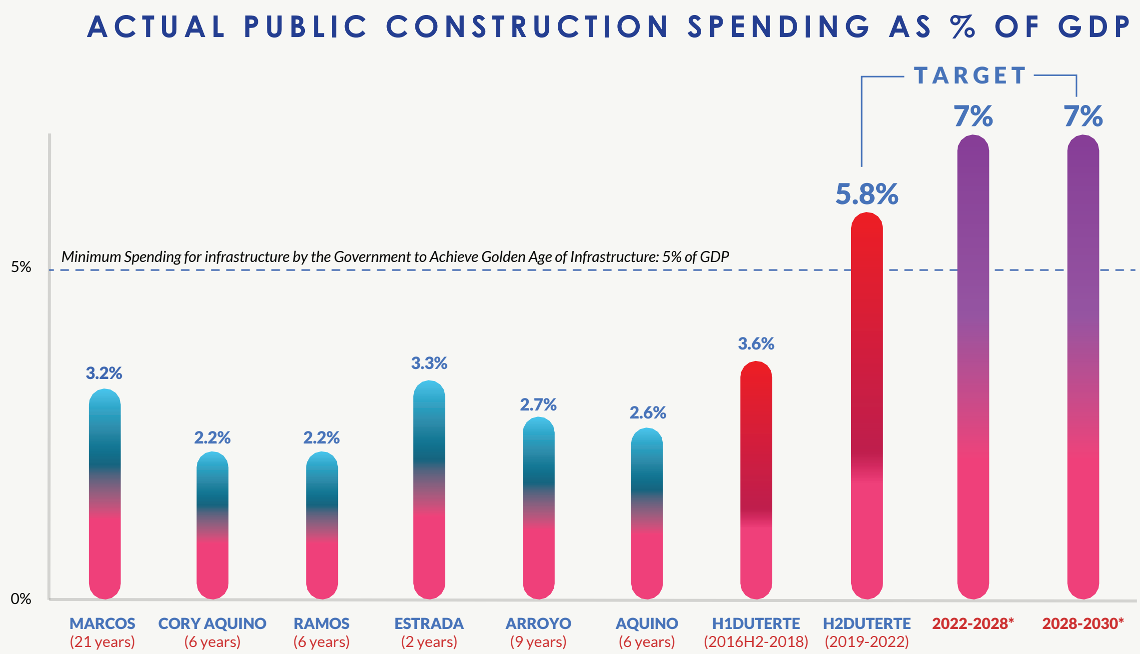
As a result, only these two core activities drive the industry's profit margins. This implies that while the industry may be profitable, the room to generate profit is severely constricted especially at the subnational level. The acknowledgement of this business reality suggests that as the cost structure of the industry's backward linkages expands, industry margins are further squeezed. This propensity for margin squeeze may be exacerbated by the existence of leakages arising from other costs of doing business such as extortion activities (e.g. revolutionary tax, irregular payments for national and local permits), bureaucratic inefficiencies, collusion, and politically-related additional costs, which, based on interviews and discussions with industry players, are estimated to reach as much as 15-35% of total project cost.



The Importance of Government Leadership in Infrastructure Development and Unlocking the Impact of Private Construction

The underdeveloped state of the country's infrastructure has long been identified as a key critical constraint to investment and growth. This finding from the World Bank in 2005 as well as a country diagnostic study by the Asian Development Bank in 2007 has remained true up to the present based on the annual survey of executive opinions undertaken by the World Economic Forum which listed the inadequate supply of infrastructure as among the top 3 most problematic factors of doing business in the country continually for all the years since 2007. The bleak picture has not changed in the latest Global Competitiveness Report which ranked the country's infrastructure at 92nd out of 140 countries due to deficient road connectivity (129th), railroad density (87th) and electrification rate (100th), the poor quality of roads (88th), the low efficiency of services in trains (100th), air transport (92nd) and seaports (84th), and the high exposure to unsafe drinking water (101st). The country's overall state of physical infrastructure ranked fifth out of nine ASEAN countries in a United Nations report in 2017.

To address the perennial problem of inadequate infrastructure, the Duterte Administration has undertaken its flagship BUILD BUILD BUILD Program which seeks to raise the levels of investment sufficiently to not only maintain the existing infrastructure but more importantly to keep up with the growing needs of the economy and the population. For this goal, the government has committed to raising public infrastructure spending every year up to 6.4% of GDP by 2021. However, current capacity constraints within the government implementing agencies as well as the reported mismatch of workers have resulted in low disbursement rates of allocated funds such that only 3.8% of GDP was actually spent in 2018. Nonetheless, the first two and half years of the Duterte Administration have already registered the highest among all administrations, at 3.6% of GDP, and is expected to breach the 5% benchmark in the second half of the term. With the implementation of this Roadmap, this is expected to hit the levels of at least 7% of GDP.



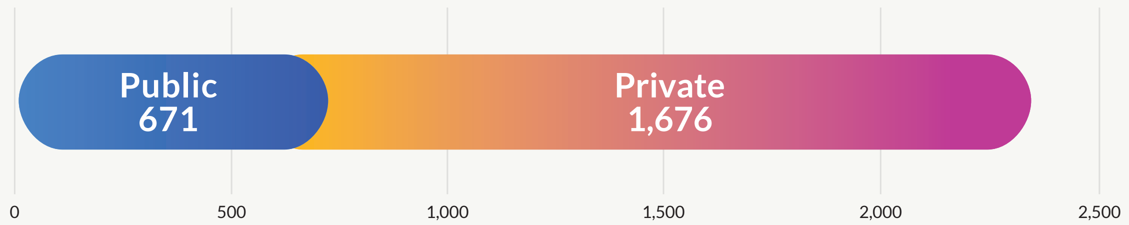
Source:
Philippine Statistics Authority. National Income Accounts 2018, report as of January 19, 2019.
** Estimates, given proper implementation of this Roadmap.*
Estimates and Forecast: REID Foundation

Overcoming the above-mentioned supply-side bottlenecks is crucial to maintaining the growing momentum generated from the higher growth of public infrastructure spending relative to private infrastructure spending which has fuelled the accelerated annual growth of the industry to nearly 15% since 2012 from 8.6% seen in the last decade.

The rising importance attached to the higher growth of public construction does not overlook the underlying significance of private construction - which is more than twice the market size of the former.

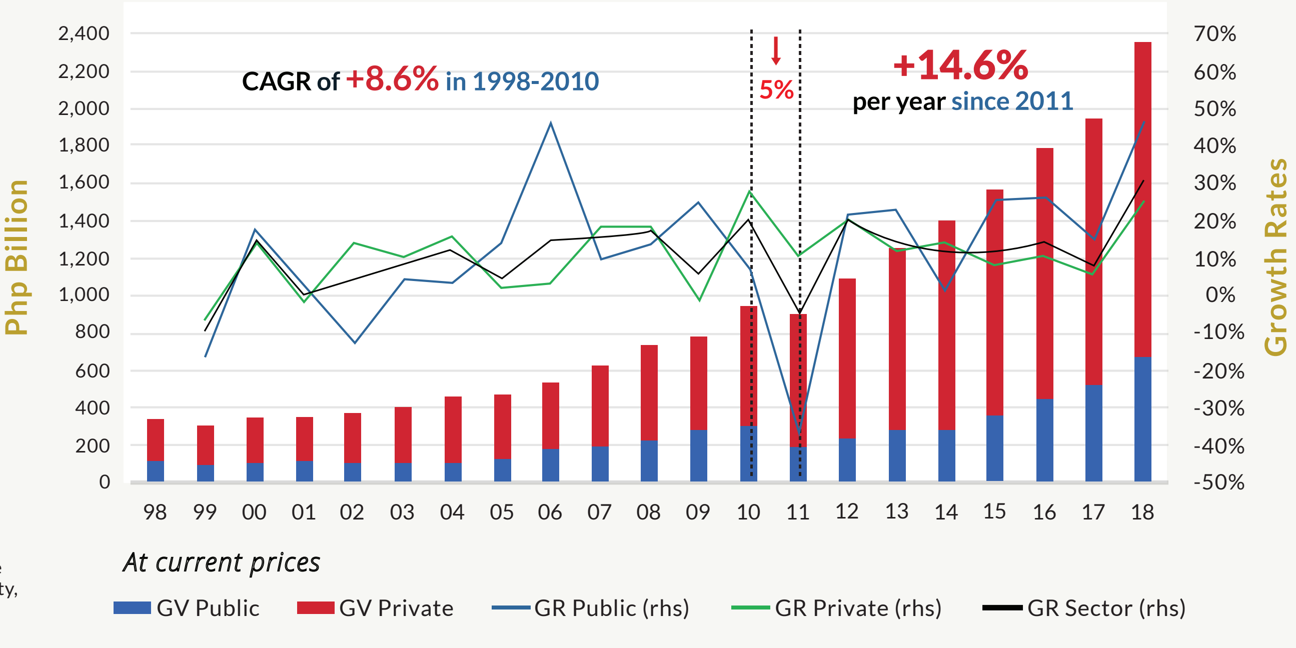
Private construction projects are less susceptible to the possible shifting of development priorities by government leaders after every election at the national and local levels. The inherent resilience of private contractors operating under short-term business conditions was clearly evident when the private construction market rose by 21% in 2011 in response to the marked slowdown of government spending during the consolidation and planning phase of President Benigno Aquino III's administration following its election in 2010. This actual experience presents a compelling case for the institutionalization of long-term infrastructure plans for implementation across sequential elections and multiple administrations, thereby effectively insulating the industry from potential political shocks in terms of strategic planning.

PUBLIC AND PRIVATE CONSTRUCTION, 2018 (IN PHP BILLIONS)



Source: Philippine Statistics Authority

MARKET SIZE AND GROWTH OF CONSTRUCTION (GROSS VALUE)

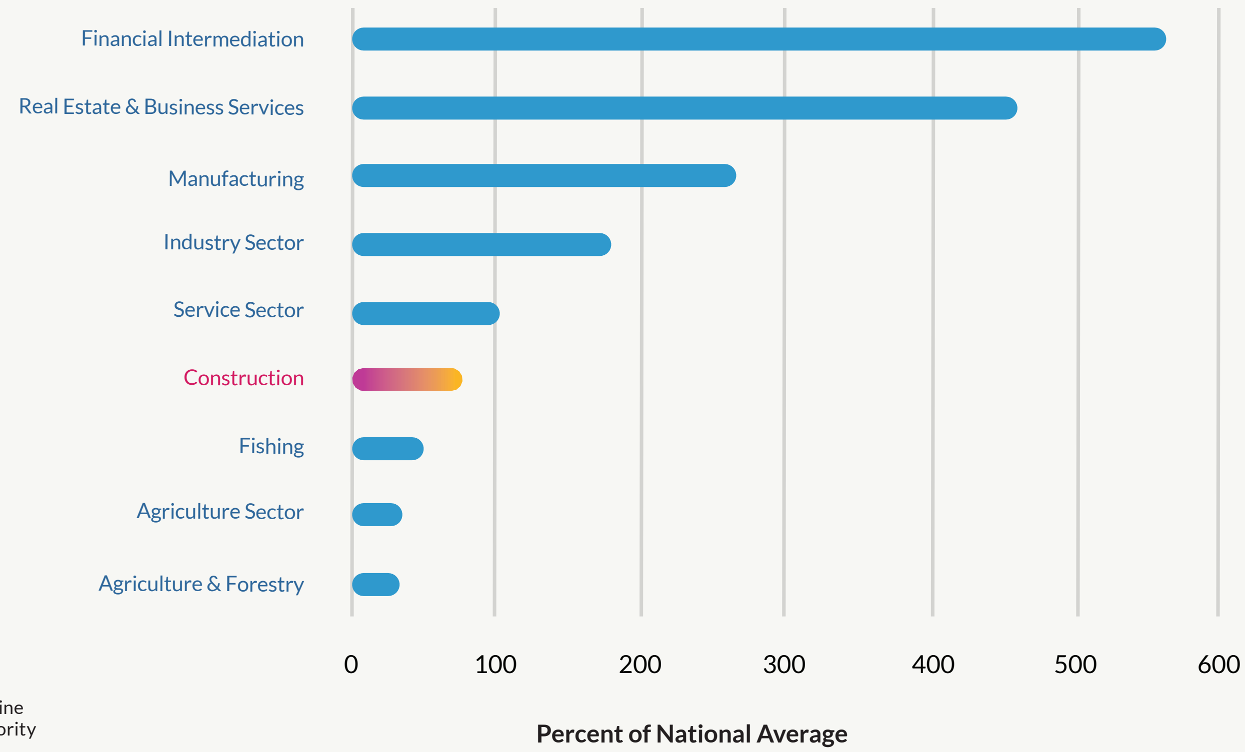


Source: Philippine Statistics Authority, Analysis by: REID Foundation

Productivity of the Philippine Construction Labor Force

Raising productivity is the principal factor underlying the long-term growth strategy of the government and the Construction industry. The Ambisyon 2040 plan of the national government specifically calls for investment in human capital so that Filipinos are equipped to learn and adapt to new technology and the changing profile of society. This is to overcome the deficiencies of infrastructure that have been noted repeatedly in development studies to account for a substantial part of low factor productivity in developing countries. Labor productivity in construction is currently below the national average and much less that of finance, real estate & business services and manufacturing.

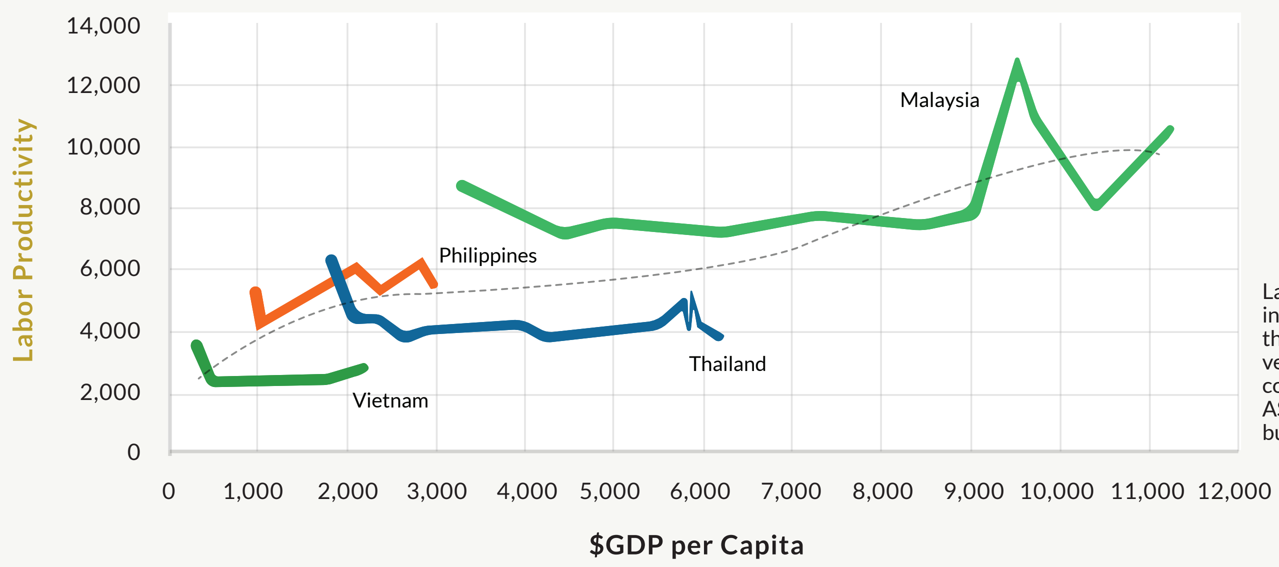
LABOR PRODUCTIVITY OF SELECTED INDUSTRIES (2018)



Source: Philippine Statistics Authority

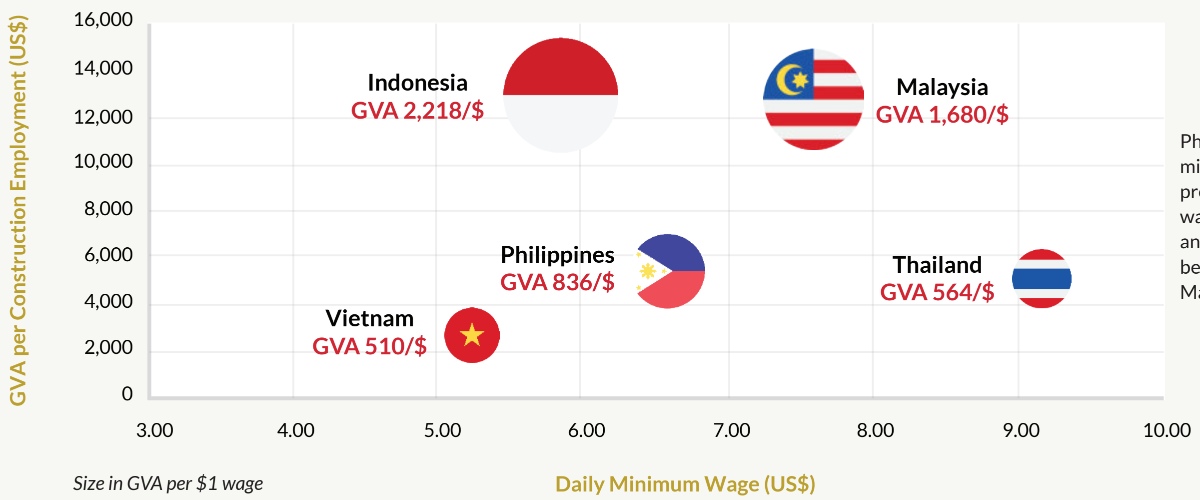
The productivity of construction workers in the Philippines has risen in the past two decades and presently stands in the middle compared to other neighboring countries in Southeast Asia. Based on current estimates, Filipino construction workers are more productive than workers from Vietnam and have overtaken workers from Thailand - even as average incomes are higher in the latter country. Nevertheless, current levels are still far behind the productivity of construction workers in Indonesia and Malaysia who are producing more per unit wage, and correspondingly receive higher wages than their Filipino counterparts.

LABOR PRODUCTIVITY IN CONSTRUCTION VS $GDP PER CAPITA



Labor productivity in construction of the Philippines is very competitive compared to other ASEAN countries but trails Malaysia

PRODUCTIVITY IN CONSTRUCTION AND MINIMUM WAGES IN ASEAN



Philippines is in the middle in terms of labor productivity per unit wage ahead of Thailand and Vietnam but behind Indonesia and Malaysia

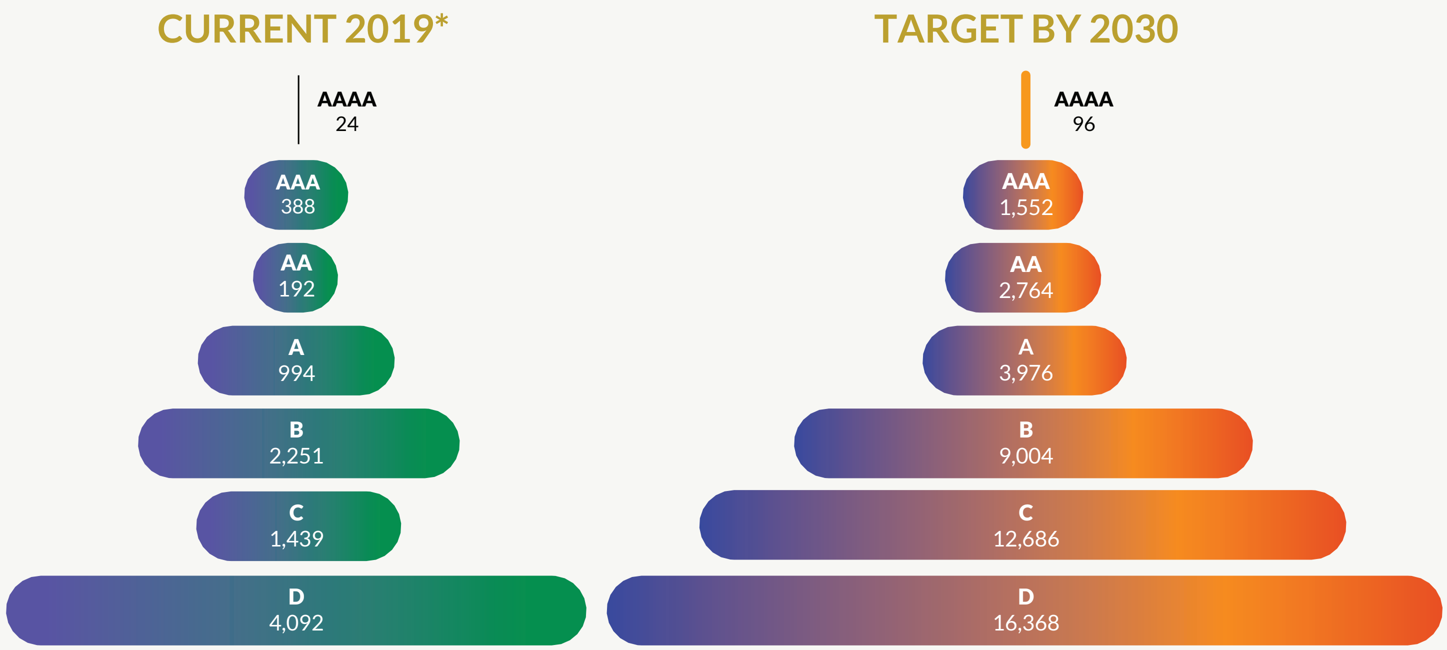
Basic source of data: United Statistics Division, Philippine Statistics Authority and Bangko Sentral ng Pilipinas

Players in the Industry

Raising the capacity of the industry to service the growing construction demand entails changing the present aggregate total and market structure distribution of licensed construction firms. Firstly, the regulatory quality, coverage, and capacity of government have to be strengthened to raise the formal inclusion of construction firms from informal activities. The current level of 11,259 licensed contractors in 2018 is relatively low compared to the estimated 30,000 local business permits connoting construction-related activities issued per year based on government data, and the 180,000 construction projects per year estimated from the number of building permits and government infrastructure project listings in a recent World Bank study.

To draw in an estimated 30,000 to 45,000 unlicensed contractors into government regulation, the recommendations of this Roadmap target to increase the number of licensed contractors to 30,000 by 2022, and to 46,000 by 2030. The requirements for eligibility of contractors for government projects should also be reviewed to incentivize licensing and participation of more qualified contractors through the appropriate amendments of Republic Act 9184 and its Implementing Rules and Regulations (IRR) .

NUMBER OF LICENSED CONTRACTORS BY CATEGORIES



*Source: PCAB, as of February 2019. Target by 2030: Estimates of the Roadmap Technical Working Group

State of the Construction Industry

The Construction industry is growing due to a combination of internal and external factors pushing the demand for construction services. Apart from the rising public infrastructure spending under the flagship BUILD BUILD BUILD Program of the government, the country is experiencing a growing middle-income class of Filipino families, the emergence of the Business Process Outsourcing sector as a global player, historically high levels in tourism arrivals and foreign direct investments, and the widespread resurgence in manufacturing. These have consequently raised the demand for new housing, roads, bridges, airports, seaports, power plants, commercial buildings, schools and hospitals across the country.

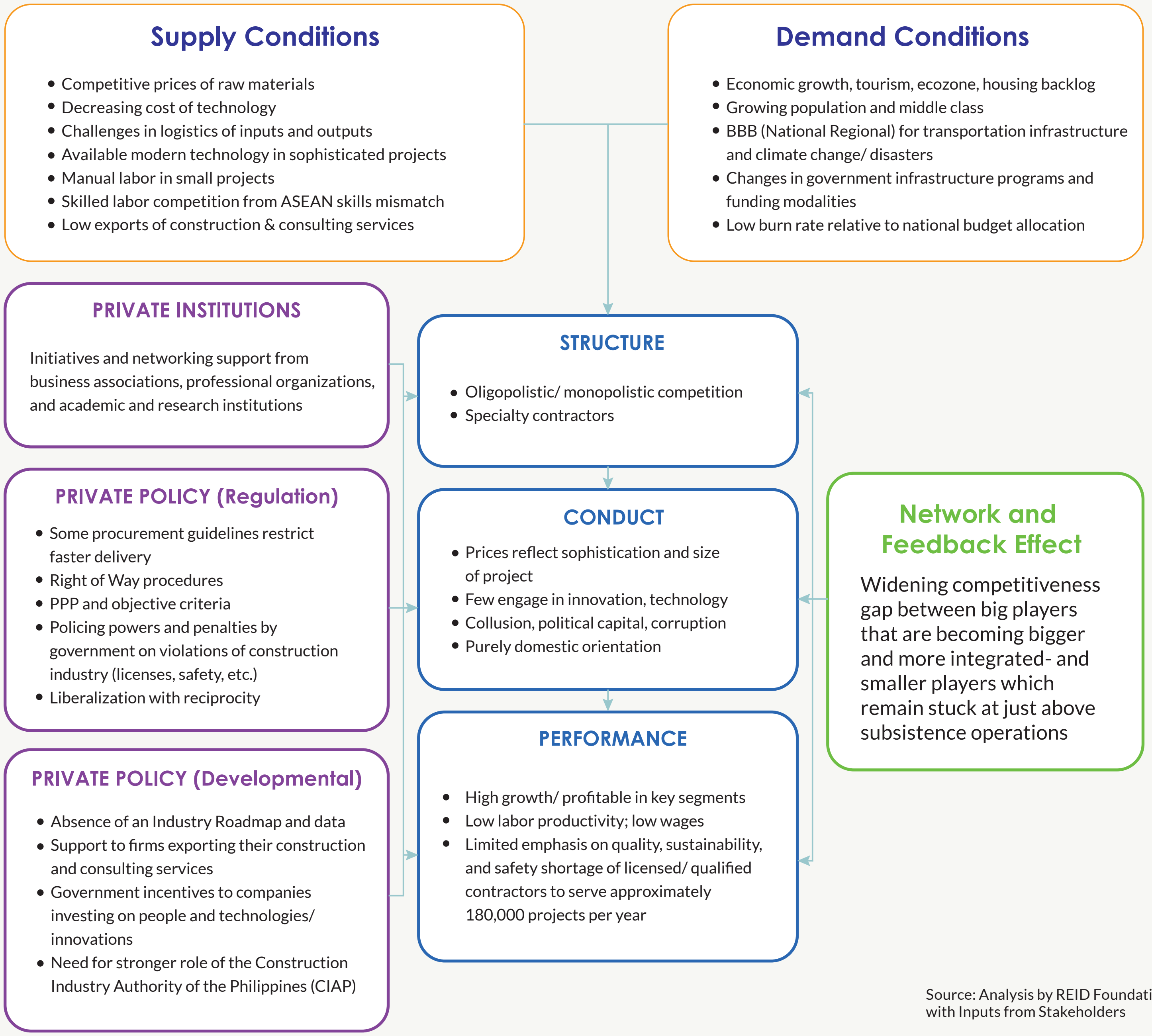
Nonetheless, the industry has certain weaknesses and challenges, such as:

- Mounting supply-side constraints in the form of high logistics and business transaction costs, slow adoption of digital and modern technologies, and the emerging shortage of skilled labor pose serious hindrances to the continued expansion of the industry;
- The limited number of licensed competent contractors, which is crucial in supporting the higher rate of economic growth for consequential years up to 2030, is clearly inadequate compared to the impending rise in construction demand from planned public infrastructure, much less for private construction projects which are historically twice the market size of the latter. Solving this critical issue concerning the current weak absorptive capacity of the industry and government implementing agencies will be the task assigned to the joint efforts of both the public and private sectors including the academe and professional organizations; and
- The regulations of the construction sector are beset with governance issues especially with regard to the issuance of construction permits and the procurement of government projects. The severity of the problem has prompted the call from concerned industry players and associations for the revision of procurement processes to promote wider competition and curb corruption, and the strengthening of the regulatory and enforcement powers of the Construction Industry Authority of the Philippines to effectively curtail unlicensed construction activities, improve compliance with building standards and help ensure the superior quality of public and private construction projects. The widespread adherence to sustainability and resiliency principles and standards - which is of paramount importance to disaster-prone countries such as the Philippines - is still in its infancy stage. However, initiatives on biodiversity-sensitive strategic environmental assessments and regulations for developing a built environment together with the preservation of the environment are being carried out.

The interplay of high demand factors and supply-side constraints has reinforced the oligopolistic and monopolistic competition nature of the existing market structure. The limited number of general, building, and specialty contractors, as well as their limited participation in public biddings for government construction projects, is indicative of oligopolistic behavior of the more successful construction companies, especially at the sub-national level. The slow adoption of new technologies and the low emphasis on improving workmanship and sustainability of structures despite an abundance of domestic demand are indicative signs of lower than expected margins at the level of small and medium- sized enterprises (SMEs)- which in turn implies higher than expected costs which some players attribute to the hidden costs of corruption. This is exacerbated by widely perceived political intervention resulting in awards of contracts to favored contractors.

At the projected pace of the country's economic growth for the next 10 years, the construction industry will face a potential implosion in its capacity to serve the needs of the growing economy unless a decisive and harmonized intervention is made by key components of the industry.

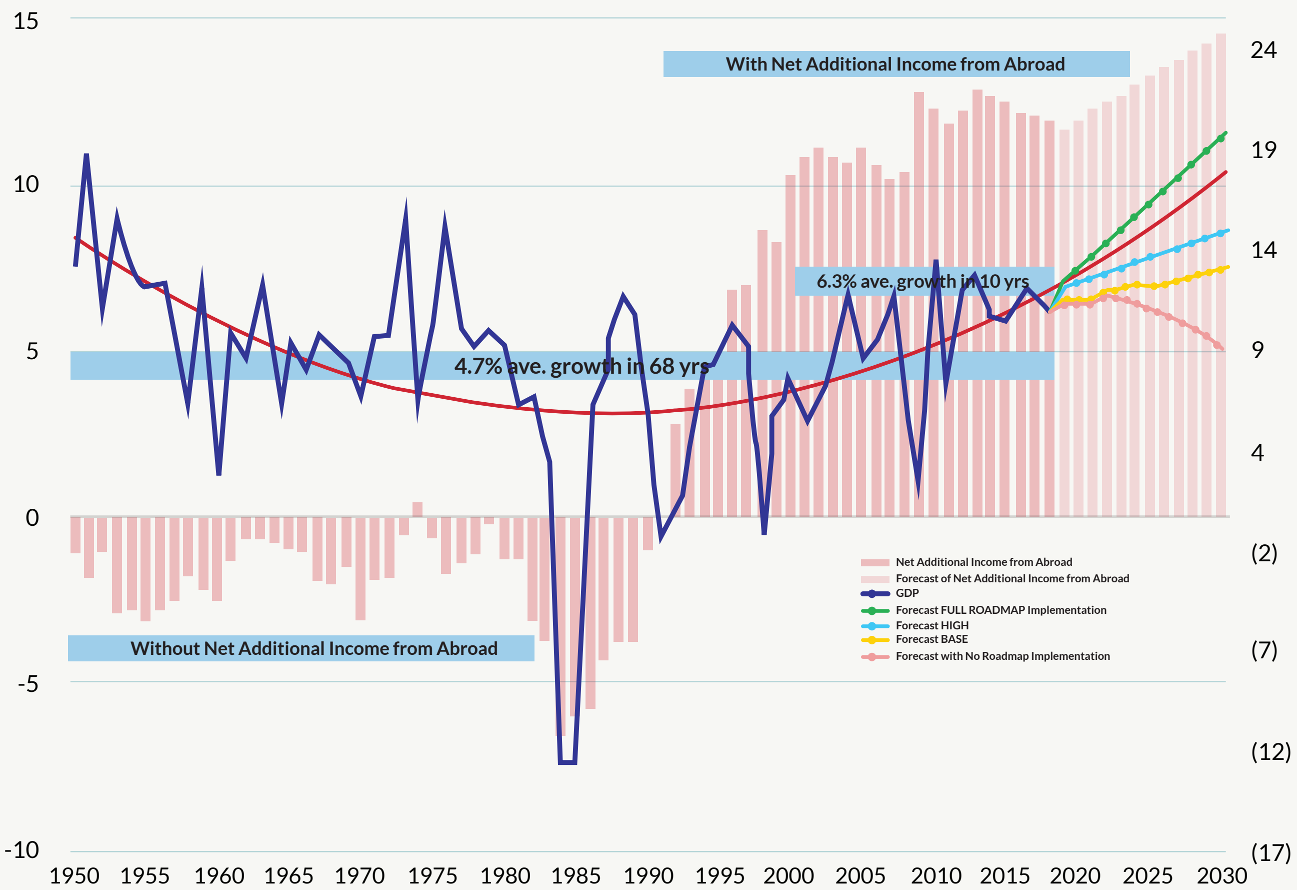
STRUCTURE CONDUCT PERFORMANCE OF THE CONSTRUCTION INDUSTRY



Source: Analysis by REID Foundation with Inputs from Stakeholders

Construction Business Opportunities in the Philippines

THE PHILIPPINE ECONOMY (% GROWTH OF GDP) AND NET ADDITIONAL INCOME FROM ABROAD (AS % OF GDP) 1950-2030



Source: Philippine Statistics Authority, National Income Accounts (1950-2018); forecasts and scenarios by REID Foundation for DTI and PCA.

Philippine Economy has a growth momentum in the last two decades, supported with net additional income from abroad, which is the highest in the world as far percentage of national income is concerned. The implementation of the Philippine Construction Industry Roadmap 2020-2030 can further reinforce and accelerate this growth momentum, following the models of China, India, and key ASEAN countries. As our economy continues to grow, it has been pulling with its growth the demand for products and services across industries. The growth prospects of the industries will further reinforce the need to accelerate public and private construction investment and production to sustain the virtuous cycle of economic growth, growth of industries, and growth of the construction industry. For the next 10 years, this Roadmap envisions a Philippine economic growth of at least 6% per year, with an achievable optimistic growth of at least 10% annually, if decisive actions will be taken for all the recommendations identified.

SECTORS	OUTLOOK	NOTES
Housing and Condominium	✓✓✓	Housing supply from key shelter agencies is projected to account for only 63% of housing needs which leaves a potential demand of about 290k units per year up to 2022. There is an additional demand of 2.4 million units between 2023 and 2030.
Commercial Buildings	✓✓✓	The business/knowledge process outsourcing (BPO/KPO) and non-outsourcing (engineering, pharmaceutical, advertising, online lending, construction, and insurance services) industries as well as the Philippine offshore gaming operators (POGOs) will continue to drive office supply demand in the coming years. Annually, these sectors require around 640,000 square meters of office space.
Industrial / Manufacturing	✓✓✓	With the resurgence of the manufacturing sector, food manufacturing is currently the sector's fastest growing industry and is expected to lead the way in the coming decade owing to the sustained increase in population and income.
Transportation	✓✓✓	With the growing economy, expansion of the country's transportation infrastructure (roads, bridges, airports, ports, and rail systems) requires an investment of Php 5 trillion for the next decade. The development and improvement of transport infrastructure will complement and support the requirements of the agribusiness, tourism, and manufacturing sectors, catalyze economic activities, promote countryside development, and reduce transport logistics costs.
Logistics	✓✓✓	The supply chain/logistics industry needs to invest at least Php 700 billion in the next ten years to expand the capacities of its warehouse and cold storage facilities as well as container yards and integrated logistics depots.
Utilities	✓✓	The same positive outlook of high growth is seen in the power sector. The planned installation by 2030 of up to 20 GW in new power supply capacity to meet increasing energy requirements of the economy will necessitate the building of more than 20 new power plants based on the Power Development Plan 2016 - 2040. The next stage in the projected capacity expansion up to 2040 is more than triple in cumulative additional capacity that of 2030.
Flood Control and Climate Change Adaptation Projects; **Projects with Livability and Sustainability Features**	✓✓	With increasing budget and technical assistance, the government is now able to increase its resources in providing infrastructure and structures for livable, sustainable and resilient communities. This may include projects for integrated water management program, flood control, evacuation areas, support facilities for marginalized sectors and so forth.

The BUILD BUILD BUILD Program presents an array of opportunities to open up new spaces for development where both public and private sector construction can unlock the potentials for business and economic growth even to the farthest corners of the country.

Number of Infrastructure per type

For more information, please visit http://www.neda.gov.ph/infrastructure-flagship-projects/

Construction Business Opportunities Globally

For the developed economies that are slowing down:

- Opportunities for specialty works or subcontracting as well as in outsourcing design and engineering services in countries in the European Union, North America, and Asia.

Middle East:

- Opportunities as a partner or as a subcontractor, e.g., the United Arab Emirates and Saudi Arabia shifting from oil business to non-oil business stemming from the latter's Vision 2030, and trying to expand their tourism industry through religion-related activities/ tourism prospects.
- These will have high implications on the market for building hotels, resorts, and transportation facilities related to this shift.

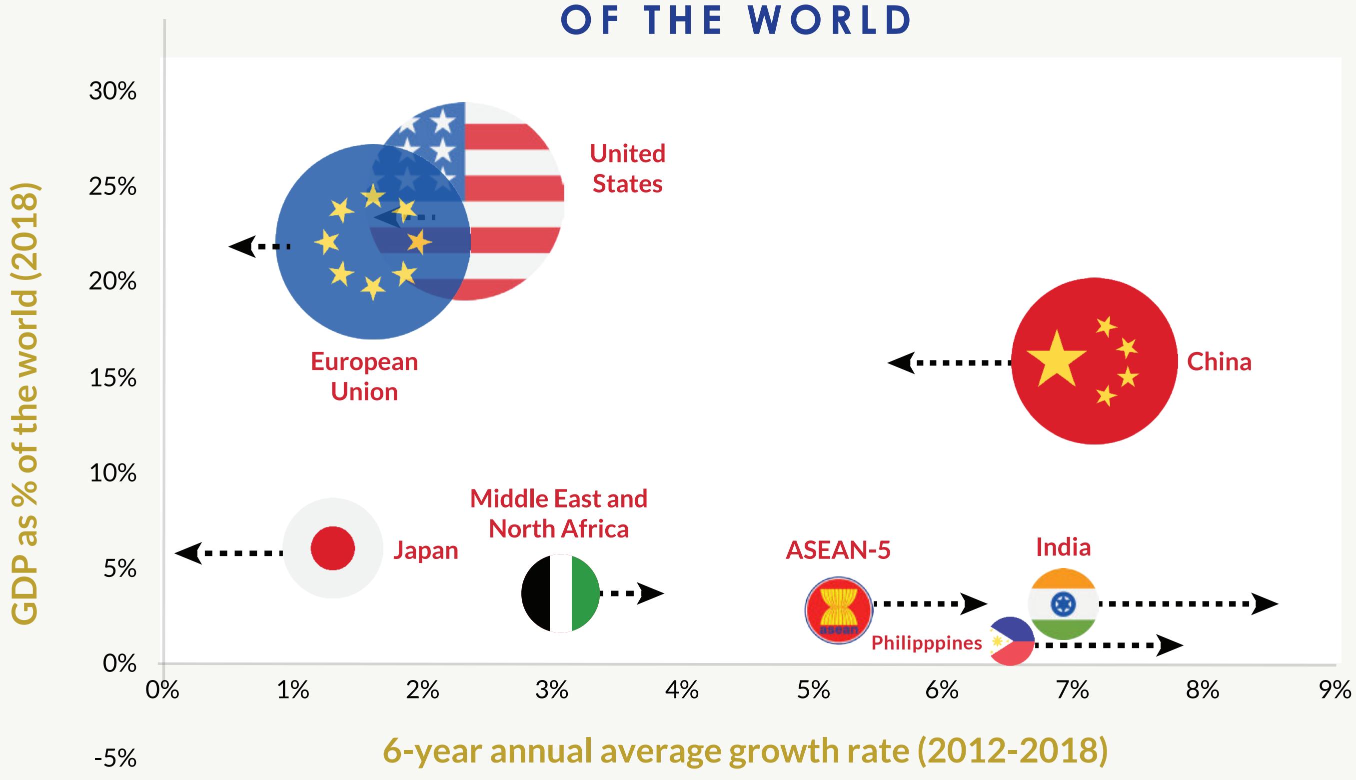
India:

- India is still in the middle of pump priming its economy to sustain a high level of growth. There are opportunities identified for our construction firms to partner with the Indian construction companies.

ASEAN:

- There are countries that still need/require the experience of Filipino construction companies and related engineering services. Immediately, foreign construction companies now based in Cambodia, Myanmar, Laos, Vietnam, and Indonesia have been identified as potential partners of Filipino companies, subject to reciprocity arrangements for construction labor and foreign equity rules between these countries and the Philippines.

SIZE AND GROWTH OF KEY ECONOMIES OF THE WORLD



Source of basic data and projections: International Monetary Fund
Notes: Size of the Bubble is Nominal GDP value in US$; arrows indicate the forecasted growth of the selected countries/block

PART III : TOGETHER TO GET THERE


Photo Credit: Saad Salim, www.unsplash.com

Our Conversations

January 7
Champions Meeting

January 10
Globalization

January 17
Sustainability

January 15
Institutions

January 22
Productivity

January 31
Plenary Discussion and Survey

February 11
Roadmap Committee Working Group

The Roadmap Recommendation Clusters

Note: Size of bubble is based on relative ranking evaluation of industry leaders and experts.

TIMELINE

Starting points and/or attainability based on survey, FGDs, and working group evaluation

This figure summarizes recommendations formulated from collective results of the industry analysis, FGDs, and one-on-one interviews with key industry resource persons and leaders. These policy recommendations are organized according to their priority of relative importance (vertical axis), attainability (horizontal axis), and relative magnitude of impact or ripple effect of the recommendation to the whole industry (size of the bubbles).

Moreover, the cumulative efforts and action plans on each pillar will be integrated in the key roadmap program clusters such as network partnerships and collaboration among players and stakeholders, adoption of modern technologies, upscaling of human and firm capacity, biodiversity-sensitive development, and ultimately, strong government leadership and regulations, all leading towards **a Philippine Construction Industry that is a global partner in building nations by 2030.**

INSTITUTIONS

Interconnected Integrity of Public and Private Institutions towards Inclusivity

Institutions, from the point of view of politics and economics, set "the rules of the game". Therefore, with available support from all stakeholders, both the public and private institutions of the industry seek to provide a suitable environment that is conducive for business development and job creation. This pillar envisions the resurgence of stronger government leadership to oversee the development and regulation of the industry, the creation of a level playing field that allows for the equality of opportunity among qualified construction firms, professionals and workers into providing construction services. The subsequent strengthening of regulatory quality and good governance within the industry will effectively reduce the formal and informal costs of doing business that has held back industry efficiency and performance far below its inherent potential for so long.

Desired Outcome	Strong government leadership and regulations supported by a highly interconnected network of private institutions working towards inclusive development
Current Situation	• New momentum on public infrastructure spending through the BUILD BUILD BUILD Program • Absence of a clear and shared vision for the development of the industry and lack of follow-through for roadmap implementation due to a weak government regulatory agency • Independent and detached infrastructure plans for the BUILD BUILD BUILD Program, transport, logistics, and housing, resulting to poor planning and allocation of resources and inputs, lack of coordination among implementing agencies, and likely to be affected by change in leadership. • Low utilization rate of government budget allocation for public infrastructure • Wide existing infrastructure gap due to challenges during project delivery • Inadequate domestic supply of lumber, aggregates, and cement • Low ranking on World Economic Forum's Ease of Doing Business survey in terms of Dealing with Construction Permits • Limited competition in the bidding of government projects at the subnational level • Delays in government procurement and project delivery • Long processing times for issuance of contractor's licenses • Low compliance with the Contractors' License Law (R.A. 4566)

Recommendation Clusters	Action Items / Initiatives
Strengthen Leadership Role of the Construction Industry Authority of the Philippines (CIAP)	• Ensure the implementation of this Roadmap by allocating resources and appointing a team of dedicated people reporting directly to the Office of the Secretary / CIAP Chairperson to manage and monitor strategic action plans and projects herein; • Shift from government subsidy (GAA) to use of income generated from operations. • Create joint public-private task force to review laws and regulations related to the organization's mandates.

Recommendation Clusters	Action Items / Initiatives
Enhance the Regulatory and Enforcement Powers of CIAP	• Provide strong independent financial/regulatory police by CIAP with powers to enforce contracting regulations and standards, and curb and penalize violations • Update and enforce penalties on non-licensed work and illegal lending of contractors' licenses • Strengthen and expand coverage of Constructors Performance Evaluation System (CPES) • Penalize project owners and financiers that use unlicensed contractors
Issue Policy Reforms for Project Delivery	• Advocate passage of revised PPP law with a performance guarantee and contingent liability on the government on its contractual obligations (e.g., Right of way, subsidies, automatic rate adjustments). • Promote other project modalities where feasible, such as design-build, design-build-maintain, and performance/output-based contracts. • Amend the Public Service Act to release the restriction on foreign ownership of utility generator/constructor in selected industries • Provide for retention of payments to cover non-payment of wages and OSH violations • Develop a policy on the setting of fees by Local Government Units (LGUs) (e.g. rate ceilings on quarry permits) and DENR requirements • Amend procurement law/ IRR to widen competition, improve project quality and timeliness, and address corruption - i.e. providing for electronic bidding, credit line, incentive bonus for early completion, interest on delayed payments, value engineering, and outcome-based procurement, revisiting the financial capability requirements and equipment resources to align with capacity requirements of projects; and reassessing the technical experience requirements of firms and key personnel to align with technological developments.
Strengthen Independent Monitoring and Evaluation	• Strengthen independent oversight for complaints mechanism distinct from implementing agency • Develop automated Performance Monitoring and Evaluation to strengthen police powers • Strict monitoring of specifications and standards by an independent technical third-party evaluator
Enforce Ease of Doing Business Law across Construction Business	• Streamline regulatory processes to comply with the Ease of Doing Business Law • Advocate for automation of systems at LGU level / DTI "Project One" linked to PCAB Licensing • Reassess the experience requirements of sustaining technical employees to align with technological developments • Revisit the net worth requirements and equipment resources to align with capacity requirements of projects • Implement full computerization to promote no-contact policy • Formulate and adopt business development incentive/ support programs to accelerate the graduation of the low-tier contractors (Category A) and address the apparent imbalance in the distribution of contractors at the middle-tier level (Category AA) and lower tier level (Category C)
Legislate a 30-Year Infrastructure Master Plan and Minimum Budget Allocation for Public Infrastructure	• Consolidate all current (including ongoing master planning) public infrastructure project plans • Legislate a National Infrastructure Masterplan with a minimum budget allocation of 5% of GDP and objective criteria to determine other appropriate financing modes for public infrastructure projects. • Harmonize Philippine Construction Industry Roadmap 2020-2030 with other DTI roadmaps relevant to the construction industry
Proposed Measures of Success	• Annual infrastructure budget to at least 5% of the GDP • Annual actual infrastructure spending from 4% to 7% of GDP • Number of Licensed Contractors from 11,500 to 46,000 • Ease of Doing Business in terms of Dealing with Construction Permits: Top third or 67% rank from 94th or 69% rank in 2019 • Average number of bidders per public infrastructure contract to more than three • Unnecessary Cost of Doing Business from 15-35% to nil • SWS Net Satisfaction on Building and maintenance of public works: From +62 in 2018 to +95 • 80% of companies with PCAB License Category A and above with a minimum of ISO 9001:2015 certification • 80% of companies with PCAB License Category AA and above are PQA awardees • Full implementation of the Constructors Performance Evaluation System (CPES) for government projects • Overall Infrastructure Global Competitiveness Rank: From 92nd rank out of 135 countries or 32% percentile rank to top third or 67% percentile rank

PRODUCTIVITY

Reengineering the skills and promoting the dignity of the construction labor force

The high employment multiplier of the Construction industry creates both an opportunity and a potential problem.

Opportunities: Every spending in the construction industry will always lead to the generation of jobs not just by the direct hiring for construction projects but also by the indirect employment from the induced economic activities from the sector 's suppliers and clients which increases job creation.

Challenges: With a relatively low unemployment rate and an aggressive past performance and future growth of the industry, the projection of required jobs to support the full projected construction business will lead to shortages of labor if the same set of skills and the same level of technology, process, method, and automation are maintained as in the past.

This highlights the urgent need for greater collaboration between government and private sectors to adopt modernization and technological mega-trends to boost the productivity of all construction-related jobs and ensure that wage rates follow accordingly. Wage rate increase, provision for social welfare, and budget allocation for occupational safety and hazards of construction workers should be addressed accordingly.

In relation to the Globalization pillar, the Philippine Construction Industry will be able to provide healthy and competitive market opportunities for these skills and expertise, so that Filipino construction firms can attract skilled and professional workers with higher wage rates and higher provisions for the protection of human rights and dignity, ensuring higher job to construction value ratio by 2030.

In relation to the pillar of Sustainability, the attainment of higher technical skills and a more productive workforce will result to optimized efficiency in construction projects, leading to less wastages and less damages to the environment.

Desired Outcome	Equipped with efficient and modern technologies founded on a culture of integrity, professionalism, and innovation
Current Situation	• Low productivity/ unskilled workers • Low wages and lack of social safety nets or pension funds • Low investment in tools, technology, and research and development • Inadequate and unharmonized training programs by private and public training institutions • Mismatch in industry requirements and skills training • Low enrollment and market penetration of skills training at the national level • Low perception of and degree of human dignity attached to construction work • Industry productivity rates are among the lowest as compared with developing countries • Brain drain with ongoing recruitment of Filipino workers for international projects of foreign contractors

Recommendation Clusters	Action Items / Initiatives
Expand Collaboration and Networking Activities for Human Resource Development	• Adopt and expand dual training system to strengthen matching of labor skills and industry requirements • Develop a national registry of construction firms, professionals, and workers • Align licensing and educational standards for engineering more towards execution rather than the design of construction works • Amend Cooperative Development Authority Law to allow cooperatives to provide construction services in order to be qualified for PCAB license; adopt a cooperative model for networking of pooled workers, professionals and small specialty contractors
Adopt Digitization and Modernization Policies	• Officially adopt digital technology (Building Information Modeling (BIM), drones, robotics, remote monitoring, smart centers, and modern methodologies for large public infrastructure projects)
Uplift the Dignity of Workers	• Promote values formation as part of brand development at the firm and individual level • Institutionalize safety nets for construction workers (e.g. occupational safety and health, social security, housing, Health Maintenance Organization (HMO), insurance, pension, etc.)
Provide Incentives for Innovation, Research, and BIM	• Provide and promote incentives for BIM, Research, and Development, and the acquisition of new equipment and technologies (e.g., leasing program)
Identify collaboration areas for TESDA and CMDF	• Define collaboration areas on the roles of CMDF and TESDA in conducting and funding various training courses and seminars to improve the competencies and capabilities of construction professionals and workers

Proposed Measures of Success	• Reduction of project delivery time by 20%
	• Labor productivity and wages to increase 5x
	• Sustainable Development Goals:
	  ◦ Passing rate in licensing exams related to construction
	  ◦ Certification rate in Technical and Vocational Education and Training (TVET) related to construction
	  ◦ Higher education faculty qualification
	  ◦ Number of TVET trainers trained

SUSTAINABILITY

Building sustainable and resilient infrastructure supporting economic development and human well-being

Photo Credit: First Balfour Inc.

Construction activities produce a double-sided effect on the sustainability and resiliency of the economy and country as a whole. For one, the strength and quality of our structures will dictate not only the physical safety and standard of living of the users of such structures, but will also, to some extent determine the economic efficiency of business and hence the economic resiliency of families and communities. Likewise, the raw materials used in construction are among the greatest contributors to the destruction of the environment, if not handled properly. Thus the principles of sustainability and biodiversity-sensitive developments must be incorporated in the planning, design, financing, implementation, and evaluation of construction projects. Improving and strengthening the institutions around this highest and most comprehensive (and probably most expensive) feature of construction projects will all be most worthwhile in the form of higher savings in operation and maintenance costs as well as the reduction in socio-economic costs due to structural deficiencies and failures which are virtually incalculable in terms of lives lost and livelihoods destroyed.

Desired Outcome	Improved quality of construction services, consistent with the principles of sustainability
Current Situation	• Low enforcement and compliance with quality, safety and health standards • Number of occupational injuries in construction: 715 in 2015 • Low number of big contractors with ISO 14001 certification of the environmental management system • Low number of certifications of environment-friendly structures due to high costs reportedly reaching +5-7% of project costs • LEED: 101 of which 15 platinum, 61 gold, 20 silver and five certified • Inadequate comprehensive and integrated regulations and assessment tools for overall and harmonized infrastructure development and for the preservation of the environment across government programs, plans, and projects

Recommendation Clusters	Action Items / Initiatives
Legislate National and LGU Standards on Sustainability	• Advocate national legislation for official adoption of environmental and resiliency standards for large infrastructure projects • Support efforts in the legislation of a more comprehensive and integrated strategic environmental assessment of infrastructure projects that is sensitive to and inclusive of biodiversity • Set standards (Department of Environment and Natural Resources, Department of Labor and Employment, Department of Interior and Local Government) as guidelines on Quality, Environment, Safety, and Health (QESH) for LGUs • Institutionalize uniform / standard carbon dioxide (CO2) measurement, benchmarking, and reduction approaches
Promote Policies for Strict Compliance on OSH Standards and for Educational Support on Sustainability Courses	• Support the implementation of the Occupational Safety and Health Standards Act to ensure strict compliance of employers to workplace safety standards • Extend scholarships or educational support for courses on green buildings, etc. • Institutionalize a Research and Development program for construction
Raise Sustainability Awareness and Education	• Raise awareness and education on sustainability mindset and methodologies among project owners, industry players, and students • Insert environment and sustainability principles and systems in engineering and architectural subjects as well as licensing requirements for architects and engineers
Develop Incentive Programs for Sustainability	• Develop a sustainability incentive program for reduction of greenhouse gas emissions in the built environment, and for construction of disaster-resilient infrastructure • Provide fiscal incentives (e.g., tax exemptions) to construction companies employing low-carbon and zero-carbon technologies in construction • Encourage the use of green building certifications for verification of compliance to code/ regulations, and basis for incentive programs
Proposed Measures of Success	• Reduce CO2 emissions by 50% in the construction sector • Reduce the incidence of worker injuries during construction to nil • Number of green-certified buildings with at least 20% savings in energy, water, and materials

GLOBALIZATION

Partner Philippines. Building Value Together.

Photo Credit: Megawide Construction Corporation

The pillar of Globalization is directed towards bridging the two-way intersection between global and Philippine economic opportunities and challenges for the construction industry. This Roadmap extends the traditional markets of Filipino construction labor to countries that need managerial and technical construction expertise - of which Filipinos are known the world over for - not only in the field but also in the emerging Engineering Services Outsourcing sector.

The construction industry aims to achieve the twin objectives of domestic market liberalization without compromising the protection of rights of workers and domestic companies. These objectives can only be achieved if Filipino construction companies will continue to increase their economies of scale and expand their scope of projects being targeted, and at the same time encouraging small contractors to establish their technical expertise and experience according to the specialization of the chosen product areas/ categories of the construction industry. Therefore, these priorities should form part of the plan to restructure government regulations and to provide support in documenting and rewarding the specialization of construction services towards global markets.

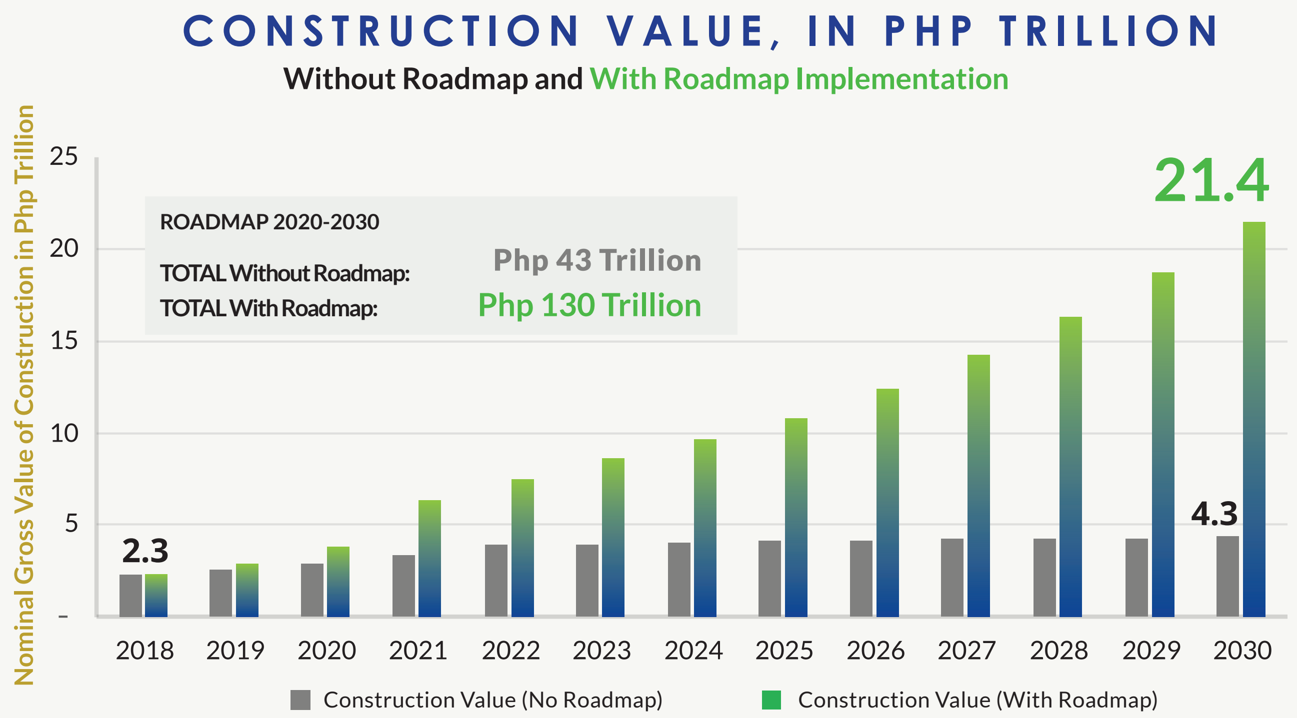
Desired Outcome	Globally competitive players with increased scope, scale, and specialization of services
Current Situation	• Low exports of construction and related engineering services • No emphasis on global competitiveness and international markets in public policy or business strategy as a sector • Foreign companies enter without bringing investments while competing with SMEs • Untapped outsourcing opportunities

Recommendation Clusters	Action Items / Initiatives
Pursue liberalization with reciprocity	• Promote integrated joint ventures between local and foreign companies, and reform equity requirements in areas with limited local capacity • Pursue trade agreements with other countries to promote reciprocity, mutual recognition (licensing and accreditation of firms), and technology, and skills transfer • Strengthen industry assistance through fiscal incentives and access to low-cost financing and guarantees • Undertake aggressive marketing activities to promote the Philippine Construction Industry abroad • Conduct training of personnel on foreign contracting standards and regulations (e.g., International Federation of Consulting Engineers or FIDIC) including contract preparation, negotiation, management, and administration
Expand A&E and EPC Services	• Promote/ enhance Engineering, Procurement, and Construction (EPC) and Design-Build capabilities in areas where local expertise and resources are available • Expand available services to include EPC Management • Expand the scope and promotion of Construction and related Architectural and Engineering Services (AES) for outsourcing
Proposed Measures of Success	• Increase in exports of construction and related engineering services, including design and outsourced processes from $79 million in 2018 to $1 billion in 2030. • Increase in number of POCB-registered contractors from 35 to 300

PART IV : THE BUILT 2030

Photo Credit: BCDA Group

The Future of Our Construction Business



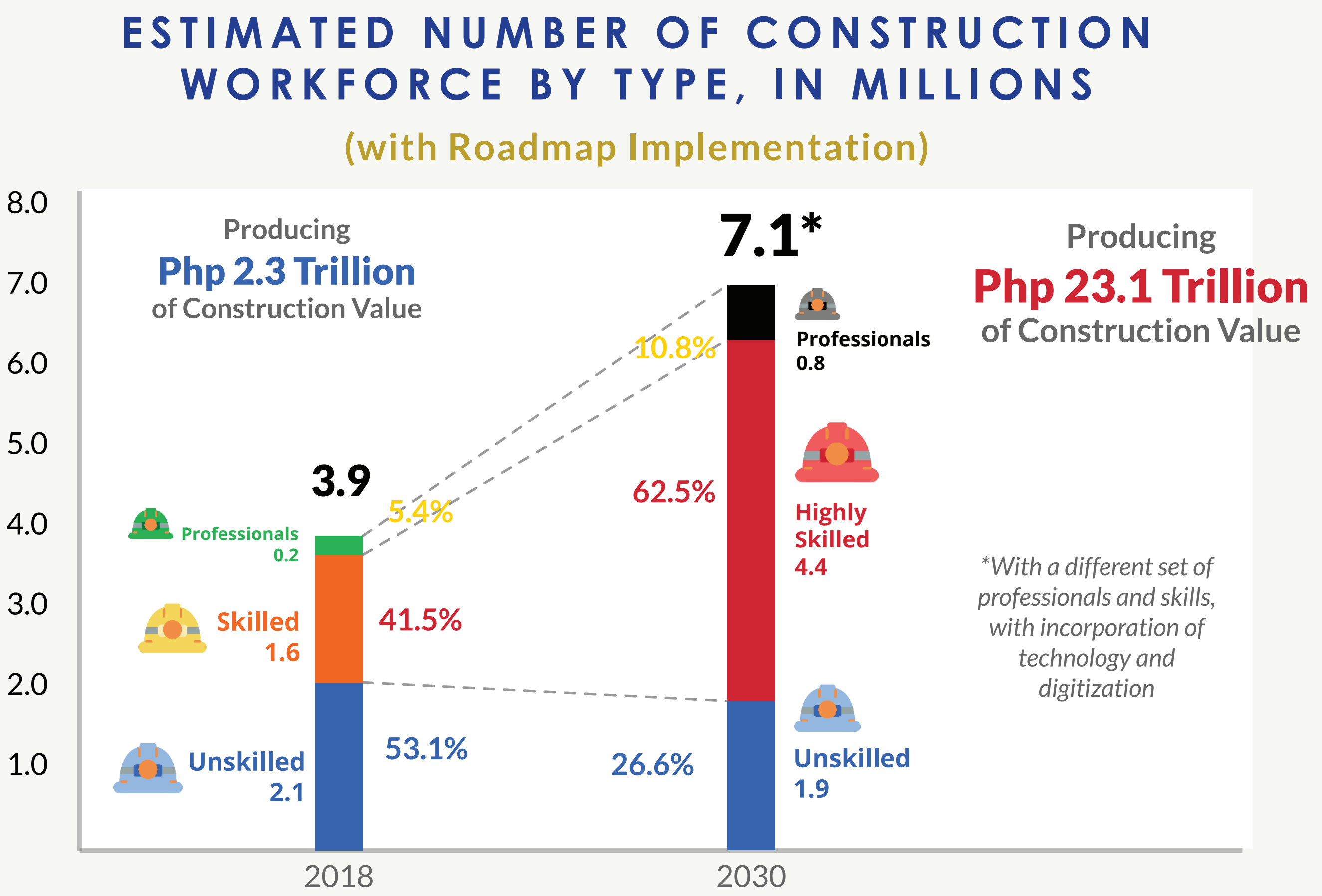
Source of Basic Data for 2018: Philippines Statistics Authority, National Income Accounts
Forecasts: REID Foundation (basic method: analyses of government forecasts and targets on GDP, inflation, public construction as % of GDP, own analyses)

The future of the construction industry will be very much determined by the sequence of actions that will be undertaken by the industry leaders and stakeholders barring any major external shocks to the current growth in construction demand.

- **No Roadmap and No Concerted Development Efforts [Php 43 Trillion]** - With no concerted effort towards performing common high-impact initiatives and deliverables, the industry can only grow to as high as 86% in the next 11 years, or an average of 8% per year, building only a cumulative total of Php 43 Trillion by 2030. This is still a reasonable growth, but the horizon of growth can only be seen in the next three years after most of the major government infrastructure programs have kicked into high gear depending on the decisiveness and technical leadership of the next administration.

- **With Roadmap Implementation [Php 130 Trillion]** - With the full adoption and implementation of this Roadmap, the forward momentum generated from BUILD BUILD BUILD Program will not only be maintained but also that its positive spirit centered on construction work towards nation building will be institutionalized, expanded down to the city and community level, and extended into the next decade. Sustained strong government leadership in setting the vision, physical and social infrastructure, and business environment will enable and spur more aggressive and continued growth in private sector spending and investments in equipment, training, and marketing in domestic markets and abroad. This long term strategic outlook if sustained will lead to a construction boom amounting to an estimated Php 130 Trillion between 2020 to 2030, - which is 325% larger than the Php 40 Trillion provided under the No Roadmap Scenario.

The Future of Our Construction Jobs



*Analysis and Forecasts: PCA and REID Foundation (Basic methods: combination of literature review, interviews with key industry experts, and statistical extrapolation

The future job market as envisioned in this Roadmap presents a clear opportunity for raising the quantity and quality of jobs available for Filipino construction managers, professionals, and skilled workers:

1. **Quantity** - The Roadmap Team estimates the increase in available jobs by more than 80% over the next ten years, from 3.9 million to 7.1 million;

2. **Quality** - With Roadmap implementation, the construction industry will develop new improved sets of skills and professional competencies that incorporate modern technology, innovation, and digitization to greatly improve worker productivity.

As a result, the average construction worker in 2030 can actually produce 500% more work compared to 2018, resulting to a total maximum annual value of work amounting to Php 21.3 Trillion by the year 2030, almost 10 times larger than the Php 2.3 Trillion worth of construction work done in 2018.

The Trail to 2020-2030: Immediate Next Steps within 2019

Preparation of Detailed Action Plans to Support the Immediate Implementation of Roadmap Strategic Recommendations in this Roadmap

This Roadmap will continue to evolve as it is updated and supplemented in the implementation of strategies formulated. After the launch of this Roadmap in March 2019, the remainder of 2019 will be dedicated to:

1) formulating a comprehensive work and financial plan with timelines, performance indicators, and responsibility centers

2) laying out the necessary foundation to ensure its prompt implementation

To jumpstart the process, the stakeholders expect CIAP to work on the following:

1. Revisit the existing organizational structure of CIAP and issue appropriate Department Orders to effect the necessary changes including the allocation of appropriate resources;
2. Draft the bill for the Legislation of the 30-Year Infrastructure Master Plan with emphasis on maintaining a budget of at least 5% of GDP and establishing objective criteria to determine the appropriate funding modalities; and
3. Organize discussions on construction-related laws affecting market access and institutionalization of policy reforms (i.e. PPP law, Procurement Law and its IRRs, Right-of-Way Acquisition Law) that will enhance public infrastructure delivery, improve the absorptive capacity and budget execution of line agencies, and establish a more transparent and competitive process for the whole infrastructure project cycle.

Construction Industry Roadmap Convergence Action Plans

In the last three years of the Duterte administration, it is crucial for the industry to leverage on the government's drive on infrastructure development by ensuring that the key programs to support this Roadmap implementation are in place. On the other hand, it is also imperative for the government to maintain a healthy dialogue with and secure commitment from the industry through its key players and associations, who play a critical role in getting things done.

In this regard, Public-Private Construction Industry Roadmap Convergence Programs can be created and used as platforms to establish fruitful working arrangements between CIAP, industry players, and other stakeholders in undertaking the following initiatives:

1. Preparation of harmonized Detailed Action Plans to be launched during the 4th Construction Industry Congress in November 2019:
   a. Communications Plan
   b. Infrastructure Master Development Advocacy Plan
   c. Professional and Skills Upgrading Action Plan
   d. Digitization and Modernization Action Plan
   e. Policy Reform Advocacy Plan
   f. Government-Industry-Academe Partnership Action Plan
   g. Construction Services Exports and Outsourcing Action Plan

2. Nationwide Roadshows to increase awareness and gain more support for the implementation of this Roadmap in collaboration with various Local Government Units and Regional Offices of the National Government Agencies.

FROM ROADMAP TO DETAILED ACTION PLAN

2020-2030 ROADMAP

A. CIAP 2019 Organization and Operation Revitalization Plan

B. Roadmap Action Plans

1. Communication Plan
2. Infrastructure Master Development Advocacy Plan
3. Professional and Skills Ugrading Action Plan
4. Digitization and Modernization Action Plan
5. Policy Reform Advocacy Plan
6. Government-Industry-Academe Partnership Action Plan
7. Construction Services Exports and Outsourcing Plan

C. Nationwide Roadshows

IMPLEMENTATION OF THE ROADMAP AND ACTION PLANS

MARCH 28, 2019

APRIL-NOVEMBER 2019

2020-2030

Call for Long-term Collective Commitment

We have set our sights to a future that is not so distant, and not at all impossible. But like any built structure, our resolve and commitment to each other must stand on strong foundations and should be for the long-term. The participation, cooperation, collaboration, and selfless proactivity of all stakeholders are key.

The national government can only lay down the landscape conducive to a fast-growing economy. The private sector can only keep the gears moving. The academe and other institutions can only provide the road signs and navigational tools. But it needs an industry-wide synergy to get the country to where it sets its sights to be.

This Roadmap was crafted so we do not lose sight, not just of our desired future, but of our core. At our core resides the Filipino family, that which we build and for whom we build. While we build for our people, what we build, builds our people and allows our people to build the nation.

This is the reason why our mindset should not just be outward looking but also inward. In our adoption of our battlecry "***TATAG at TAPAT***", we do not just refer to the stability and strength of the structures we build, but to the internal strength and integrity required of all stakeholders in order to make this dream a reality. Our Integrity is our commitment to this 2030 vision. This Integrity is the cornerstone upon which we build the Filipino family and the Filipino nation, as we help build other nations.

Integrity is elevating the quality of our work by elevating the dignity of our workforce. Integrity is elevating the dignity of our workforce by elevating the quality of our work. To build nations, we must first build ours. And to build our nation, we must first build our industry, our people, our workers, and our families.

Integrity is the single virtue with which we will build our builders who will build a nation of citizens who are "*matatag*" and "*matapat*".

Photo Credit: Raniel Hernandez

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Government

Morel, Alain	Asian Development Bank
Medina, Zol B.	Association of Accredited CPES Evaluators of the Philippines / National Power Corporation
Ibarra, Rafael Antonio S.	Bangko Sentral ng Pilipinas
Bondoc, Jerico (Engr.)	Bases Conversion and Development Authority
Caniones, Jocelyn L.	Bases Conversion and Development Authority
Carreon, Peter	Bases Conversion and Development Authority
Aguilar, Jonathan Carl S.	Board of Investments
Raganit, Mary Ann	Board of Investments
Lamentillo, Anna Mae	Build. Build. Build. Inter-Agency Committee
Garcia, Mario	Commission on Filipinos Overseas
Aquino, Jaime	Commission on Higher Education
Malapo, Maria Elena C.	Commission on Higher Education
Puriran, Ma. Theresa V.	Commission on Higher Education
Saa, Celton Clyde	Commission on Higher Education
Baldoz, Teresita Diaz	Construction Industry Arbitration Commission
Dela Cruz, Josephine Kathryn T.	Construction Industry Arbitration Commission
Abiera, Ramon L.	Construction Industry Authority of the Philippines
Godia, Ma. Estrella	Construction Industry Authority of the Philippines
Tajon, Angelina	Construction Industry Authority of the Philippines
Laurequez, Lorina	Construction Industry Authority of the Philippines
Sagun, Leo S.	Construction Industry Authority of the Philippines
Borja, Jerico	Construction Manpower Development Foundation
Dy, Peter Paul	Construction Manpower Development Foundation
Fajardo, Rene E.	Construction Manpower Development Foundation
Garcia, Lito	Construction Manpower Development Foundation
Manalo, Augusto F.	Construction Manpower Development Foundation
Pastor, Edwin	Construction Manpower Development Foundation
Usigan, Ofelia	Construction Manpower Development Foundation
Valenciano, Joji C.	Construction Manpower Development Foundation
Medialdia, Luz S.	Department of Education
Manalo, Christopher Edmundo V.	Department of Energy
Ramboyong, Lene	Department of Environment and Natural Resources Environmental Management Bureau
Auxilian, Edgar T.Q.	Department of Foreign Affairs
Castro, Belinda F.	Department of the Interior and Local Government
Fortaleza, Luzviminda	Department of the Interior and Local Government
Ilaya, Rosalina D.S.	Department of the Interior and Local Government
Mercado, Gilbert L.	Department of the Interior and Local Government
Morales, Jesus L.	Department of the Interior and Local Government
Alquiza, Mariano	Department of Labor and Employment - Bureau of Local Employment
Bugayong, Precious Nicole	Department of Labor and Employment - Bureau of Local Employment
Lapiz, John Christopher	Department of Labor and Employment - Bureau of Local Employment
Trono, Myka Rose	Department of Labor and Employment - Bureau of Local Employment
Binag, Noel	Department of Labor and Employment - Occupational Safety and Health Center
Sto. Tomas, Concepcion T.	Department of Labor and Employment - Occupational Safety and Health Center
Tornea, Vivian F.	Department of Labor and Employment - Overseas Workers Welfare Administration
Alcantara, Levinson C.	Department of Labor and Employment - Philippine Overseas Employment Administration
Arevalo, John Eric	Department of Public Works and Highways
Cabral, Maria Catalina E.	Department of Public Works and Highways
Cunanan, Gloria	Department of Public Works and Highways
Lu, Agnes	Department of Public Works and Highways
Macabante, Dindo M.	Department of Public Works and Highways
Molano, Antonio V., Jr.	Department of Public Works and Highways
Valencerina, Clifton D.	Department of Public Works and Highways
Yusop, Jumiyan U.	Department of Public Works and Highways
Perredo, Robert	Department of Science and Technology
Taningco, Angelo	Department of Trade and Industry
Legaspi, Elena D.	Department of Trade and Industry - Board of Investments
Sanchez, Ena Dessarie O.	Department of Trade and Industry - Board of Investments
Dela Vega, Jan Raymond	Department of Trade and Industry - Bureau of International Trade Relations
Gepty, Allan B.	Department of Trade and Industry - Bureau of International Trade Relations
Magsino, Jasmisha	Department of Trade and Industry - Bureau of International Trade Relations
Quitiquit, Vicky	Department of Trade and Industry - Bureau of International Trade Relations
Cademia, Gliceria N.	Department of Trade and Industry - Export Marketing Bureau
Loring, Maria Teresa S.	Department of Trade and Industry - Export Marketing Bureau
Andres, Basil	Department of Trade and Industry - Foreign Trade Service Corps
Columna, Clariza	Department of Trade and Industry - Foreign Trade Service Corps
Elnar, Eric	Department of Trade and Industry - Foreign Trade Service Corps
Vizmonte, Ireneo V.	Department of Trade and Industry Management Support
Dinsay, Jose Ma	Department of Trade and Industry - Philippine Trade and Investment Center Seoul, Korea
Dionisio, Ernani M.	Department of Trade and Industry - Philippine Accreditation Bureau
Elevado, Eugenio Jr.	Department of Trade and Industry - Philippine Trade and Investment Center Osaka, Japan
Habito, Alexis Gabriel	Department of Transportation
Uy, Westene	Department of Transportation
Caisido, Elmira S.	Government Procurement Policy Board
Aben, Cesar Anthony A.	National Economic and Development Authority
Licos, Maria Genelin L.	National Economic and Development Authority
Sta. Isabel, Leyden S.	National Economic and Development Authority

Panopio, Jovita G.	National Housing Authority
Cadores, Abigail Ann A.	National Housing Authority
De Vera, Janine	Philippine Competition Commission
Villanueva, Rigel A.	Philippine Competition Commission
Escalante, Arthur N.	Philippine Contractors Accreditation Board
Matienzo, Herbert	Philippine Contractors Accreditation Board
Reyes, Honorio	Philippine Contractors Accreditation Board
Baggao, Erni G.	Philippine Domestic Construction Board
Carrasco, Jocelyn	Philippine Domestic Construction Board
Del Prado, Leilani dL.	Philippine Domestic Construction Board
Derit, Ariane Monique	Philippine Domestic Construction Board
Fernandez, Anthony L.	Philippine Domestic Construction Board
Lombos, Rogelio	Philippine Domestic Construction Board
Najarro, Nikki	Philippine Domestic Construction Board
Alvarez, Ramir A.	Philippine Overseas Construction Board
Del Rosario, Rosemarie	Philippine Overseas Construction Board
Dela Peña, Sheryl A.	Philippine Overseas Construction Board
Igay, Rosalie O.	Philippine Overseas Construction Board
Murillo, Khen O.	Philippine Overseas Construction Board
Castro, Julan D.	Public-Private Partnership Center
Fajardo, Harold Duane	Public-Private Partnership Center
Lacuna, Phebean Belle A. Ramos	Public-Private Partnership Center
Andrade, Ma. Linda A.	Technical Education and Skills Development Authority
Bathan, Brian DC.	Technical Education and Skills Development Authority
Plete, Howard Mark	Technical Education and Skills Development Authority
Zarsadias, Katherine Amor A.	Technical Education and Skills Development Authority
Yambao, Noel F.	Tourism Infrastructure and Enterprise Zone Authority

Industry

Lapuz, Emmanuel Jose	Aboitiz Construction Inc.
Saddi, Nadeleine	Aboitiz Construction Inc.
Espiritu, Laurence	AECOM Philippines
Cua, Anthony Patrick	APEC Business Advisory Council
Magbutay, Gilbert	Association of Structural Engineers of the Philippines
Kawabe, Ayaka	Atlantic, Gulf and Pacific Company of Manila Inc.
Akoeu, Ada	Atlantic, Gulf and Pacific Company of Manila, Inc.
Ilagan, Roland	Atlantic, Gulf and Pacific Company of Manila, Inc.
Leviste, Jose Jr. P.	Atlantic, Gulf and Pacific Company of Manila, Inc.
Liwanag, Albert	Atlantic, Gulf and Pacific Company of Manila, Inc.
Niekerk, Nico Van	Atlantic, Gulf and Pacific Company of Manila, Inc.
Benedicto, Bernardo III	Benedicto Steel Corporation / Philippine Chamber of Commerce and Industry
Cueto, Ruben	Boysen Paints Philippines
Agbayani, Fortunato	Brand Guerilla PH
Dela Cruz, Sherwin Jay	Citihomes Builder & Development, Inc.
Mendoza, Ingrid	City Shutter
Pancho, Gerry	CM Pancho Construction, Inc.
Rodriguez, Gerard	CM Pancho Construction, Inc.
Dador, Manolo	Council of Engineering Consultants of the Philippines
Wenceslao, Delfin	D.M. Wenceslao, Inc.
Wenceslao, Paolo Vincent	D.M. Wenceslao, Inc.
Elepano, Ronaldo Jr.	D.M. Consunji, Inc.
Consunji, Isidro A.	DMCI Holdings, Inc. / Philippine Overseas Construction Board
Batay, Edwin	DATEM Incorporated
Miranda, Mary Junnene E.	DATEM Incorporated
Tumbocon, Emilio Lolito J.	DATEM Incorporated Construction Industry Arbitration Commission
Allado, Ramon	Davao Constructors Association Center Incorporated
Mangling, Jershum	Davao Constructors Association Center Incorporated
Reyes, Michael Roberto P.	DCCD Engineering Corporation / Philippine Overseas Construction Board
Ramos, Chresly M.	Enrique O. Olanan and Associates
Macapagal, Norman	EEI Corporation
Mercado, Oscar	EEI Corporation / Philippine Overseas Construction Board
Reyes, Daniella Dominique	Employers Confederation of The Philippines
De Castro, Ernesto S.	ESCA Incorporated
Chua, Ellen	ETMC Global Trading, Incorporated
Simeon, Gerry D.	Frey-fil Corporation
Tolosa, Jesus O.	Frey-fil Corporation
Salvacion, Lendry A.	Geodetic Engineers of the Philippines, Inc.
Sarmiento, Eduardo B.	Geodetic Engineers of the Philippines, Inc.
Del Rosario, Aileen R.	HEDRON Construction and Development
Rondilla, Aileen del Rosario	HEDRON Construction and Development
Ettanola, William	ICIC
Landicho, Bernard	Isometric Enterprises, Inc. / PSVARE
Gaffud, Carol	IT and Business Process Association of the Philippines
Untal, Rey	IT and Business Process Association of the Philippines
Morales, Patricia Ann	J.V. Angeles Construction Corporation
Viray, Malou M.	J.V. Angeles Construction Corporation
Quan, Yony	JAC Motors
Cabrera, Antonio	JGC Philippines, Inc.
Garcia, Eduardo G.	JGC Philippines, Inc.
Cua, Gwendolyn Cobankiat	Justino Corporation
Parada, Leonardo	L.P. Engineering
Bongulto, Manuel Melchor B.	Megawide Construction Corporation
Relleta, Paul Edgar L.	Megawide Construction Corporation
Torres, Robert Jason	Megawide Construction Corporation
Cajalne, Mary Grace	Meralco Industrial Engineering Services Corporation
Gamba, Rich	Meralco Industrial Engineering Services Corporation
Mendoza, Jay	Meralco Industrial Engineering Services Corporation
Palomares, Sonny P.	Meralco Industrial Engineering Services Corporation
Torres, Lucito R.	Meralco Industrial Engineering Services Corporation
Singson, Rogelio L.	Meralco PowerGen Corporation
Chaung, Edmund	Mevbuilt, Inc.
Kung, Mark Justine	Mevbuilt, Inc.
Belleza, Huillio	National Constructors Association of the Philippines, Inc.
Chen, Rossana V.	National Constructors Association of the Philippines, Inc.
Pante, Jorge	National Constructors Association of the Philippines, Inc.
Guico, Ronald	Nikkeru Plant Maintenance Solution Inc.
Mendoza, Marcelino C.	Organization of Socialized and Economic Housing Developers of the Philippines
Lacuna, Wilbert	PCA Metropolitan Chapter
Ello, Joel	PEME Consultancy, Inc.
Navarra, Nappy	Philippine Association of Landscape Architects
Malasa, Lawrence	Philippine Business for Education
Segales, Earl	Philippine Business for Education
Pagdagdagan, Valerie	Philippine Center for Environmental Protection and Sustainable Development
Basilio, Enrico L.	Philippine Chamber of Commerce and Industry Transportation & Infrastructure Committee
Dela Cruz, Chester	Philippine Green Building Council
Dela Cruz, Christopher	Philippine Green Building Council
De Jesus, Amado, Jr. P.	Philippine Green Building Council
Conti, Leandro A.	Philippine Green Building Initiative, Inc.
Domingo, Maria Felissa	Philippine Institute of Interior Designers
Cola, Roberto	Philippine Iron and Steel Institute
Cabael, Alberto T.	Philippine Society of Plumbing Engineers / AAA Plumbing Services Inc.
Magos, Jason	Philippine Society of Plumbing Engineers / Greenline Construction
Lim, Crisanto H.	Philippine Society of Plumbing Engineers / Homeworld Construction
Vasquez, Maila R.	Philippine Wood Producers Association
Chotrani, Johnny	Philippine - India Business Council
Lahoz, Victor	PSVARE
Tongson, Jose Ernesto III M.	Republic Cement Services, Inc.
Gonzalez, Francisco Jr.	Romago Inc. / Philippine Overseas Construction Board
Zuniga, Eros G.	Safety Organization of the Philippines, Inc.

Itao, Gamaiel F.	Society of Philippine Electrotechnical Constructors and Suppliers Inc.
Pecolera, Rodrigo T.	Society of Philippine Electrotechnical Constructors and Suppliers Inc.
Uranza, Carmelo Jimson B.	Society of Philippine Electrotechnical Constructors and Suppliers Inc.
Vasquez, Roland P.	Society of Philippine Electrotechnical Constructors and Suppliers Inc.
Antonio, Roger	SPCastro, Incorporated
Fernandez, Emma	SPCastro, Incorporated
Ferry, Erwin	SPCastro, Incorporated
Acurantes, Reynaldo	Sta. Clara International Corporation
Arce, Rosario	Sta. Clara International Corporation
Balote, Jerome Christopher	Sta. Clara International Corporation
De Jesus, Shara	Sta. Clara International Corporation
Magsajo, Ronald Jr. C.	SteelAsia Manufacturing Corporation
Villanueva, Rainier	Subdivision & Housing Developers Association / Phinma Properties
Sabidong, Edgar	Subdivision and Housing Developers Association
Batallones, Henrik	Supply Chain Management Association of the Philippines
Agbon, Marriz Manuel B.	Surya Source Energy, Inc.
Barile, Mike	ThermaPrime Drilling Corporation
Tablante, Ronald	ThermaPrime Drilling Corporation
Siosoyco, Ronnie	Trion Group
Toreja, Dionisio	Trion Group
Regalado, Brian Ernest L.	United Architects of the Philippines
Vazquez, Elizabeth G.	Wallcrete Company, Inc.
Francisco, Ma. Elena Go	Women in Infrastructure Foundation, Inc.

Foreign Chambers, Embassies and Delegations and Multilateral Organizations

Razo, Sean Patrick C.	Embassy of Japan - Economic Section
Galvez, Alvin	Enterprise Singapore
Kaw, Antonio	Federation of Filipino-Chinese Chambers of Commerce and Industry Inc.
Mangasing, Peter	Federation of Filipino-Chinese Chambers of Commerce and Industry Inc.
Jamaji, Minoo	Federation of Indian Chambers of Commerce and Industry
Bandelow, Charlotte	German Philippine Chamber of Commerce and Industry
Loveres, Tristan	German Philippine Chamber of Commerce and Industry
Inigo, Ma. Franchesca	International Organization for Migration
Ziller, Lorens	Italian Chamber of Commerce of the Philippines, Inc.
Hanafiah, Siti	Malaysia External Trade Development Corporation
Naing, HE Win	Embassy of Myanmar in the Philippines
Piedada, Jose	Embassy of Timor Leste in the Philippines
Montesines, Bebe	U.S. Commercial Service, U.S. Embassy
Manroy, Teddy	United Nations Industrial Development Organization

Academe

Doblada, Eunice A.	City of Antipolo Institute of Technology
Millare, Michelle C.	City of Antipolo Institute of Technology
Minano, Kreanne Irish	City of Antipolo Institute of Technology
Nabong, Avelyn	City of Antipolo Institute of Technology
Panganiban, Armando	City of Antipolo Institute of Technology
Peñanco, Dr. Erlinda C.	City of Antipolo Institute of Technology
Posada, Mark Dominic L.	City of Antipolo Institute of Technology
Llanes, Cynthia C.	Technological Institute of the Philippines
Valdepeñas, Rosalinda P.	Technological Institute of the Philippines
Macam, Victor Jr.	University of the East - Caloocan
Pagbilao, Dominador S.	University of the East - Caloocan
Bisa, Harvey	University of the Philippines
Mesias, Vince Gerard	University of the Philippines
Navata, Martin Julian	University of the Philippines

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Morris S. Agoncillo
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