

## Calories Credit Challenge (CCC) through Bio-Circular-Green Economy (BCG Model)

### 1. Definitions

The **Calories Credit Challenge (CCC)** is a platform that gathers data on exercise, playing sports, and physical activity in different forms. It was designed to encourage Thai people of all age groups to work out and play sports regularly to maintain their health and make health and fitness a lifestyle. The platform also has an “incentive” function that rewards and prizes people who achieve their fitness goals and a “donation” function that encourages people to contribute to society.

The **Calories Credit Challenge (CCC) through the Bio-Circular-Green Economy (BCG Model) approach** is the CCC platform that links to the BCG Model in order to upgrade the country’s tourism and sports industry, thereby adding value to the national economy sustainably in parallel with having good physical and spiritual health, and a society that is healthy and environmentally friendly.

### 2. Significance of Issues

The prevalence of non-communicable diseases (NCDs) in Thailand has been increasing for several years, with about 320,000 deaths yearly (as of 2020), accounting for 75 percent of all deaths. Stroke was ranked as a leading cause of mortality in Thailand, followed by Ischemic heart disease, chronic obstructive pulmonary disease, diabetes, and high blood pressure, respectively. The risk factors of these diseases include consuming too much and too many foods that are high in sugar, fat, and salt, the harmful use of alcohol and tobacco as well as inadequate physical activity.<sup>1</sup> The NCDs are preventable and controllable, which can be achieved by lifestyle modification, regular exercise, and healthy eating.

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<sup>1</sup> The Department of Health (B.E. 2563). Krongkan 10 Lan Krob Krua Thai Ook Kamlang Pheu Sukaphap. Bangkok: Copied document.

1 According to the Department of Physical Education,<sup>2</sup> only 39.18 percent of people in  
2 Thailand exercise regularly, which is considered very low. The number of people who exercise  
3 regularly can increase.

4 A research study by Rand showed that regular exercise promotes a healthy body and is  
5 also associated with lowering the nation's healthcare spending. According to one study, making  
6 Thai people physically more active and regular exercise helped reduce around 1.3 billion baht in  
7 Thai healthcare spending. In addition, it can help grow the country's GDP by 0.5 percent per  
8 year or about 81 billion baht.<sup>3</sup>

9 As such, Thailand has set an ambitious goal of making its people more physically active  
10 as this not only helps save on the nation's healthcare spending but also increases its GDP.  
11 However, making people physically more active and motivating them to exercise regularly is  
12 challenging. To achieve this, Thailand must implement several tools, set short- and long-term  
13 strategies, and carry out periodic performance assessments.

14 Innovation and technology play a very crucial role in our everyday life. The online world  
15 is more important than ever. More and more people use the Internet in everyday activities, for  
16 their personal and professional lives. They work from home, make financial transactions via an  
17 application, and buy products from online stores. Others find information on the Internet.  
18 Students attend online classes. The fast growth of technology has forced people unfamiliar with  
19 it to adapt to the digital world. They have learned to use the Internet, smartphones, and other  
20 new technology. They have started using it in their everyday lives. Technology has thus become  
21 an integral part of their lives.

22 Therefore, it is essential to develop forms of exercise, cultivate a fitness mindset in the  
23 Thai population, and encourage them to engage in physical activity and play sports in the right  
24 place at the right time. Motivating them to maintain a healthy lifestyle and live a good life within  
25 our planet's limits is equally important. In today's digital world, innovations, and technology are  
26 transforming exercise regimes and sports. Online workout videos are available on social media  
27 platforms such as YouTube, Facebook, and Instagram. Social workout apps allow people to

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<sup>2</sup> The Department of Physical Education, Ministry of Tourism and Sports. (B.E. 2564). Report on People's exercise and sports B.E. 2564, as of October 21, 2022, <https://www.dpe.go.th/manual-files-432891791793>

<sup>3</sup> Hafner, M. et al. (2019). *The economic benefits of a more physically active population: an international analysis*. Santa Monica, CA: RAND Corporation.

1 exercise more comfortably in their homes. Smartphones and applications, meanwhile, can help  
2 gather exercise data. Smartwatches and wearable devices can help people exercise more  
3 effectively and better.

4 Due to the current situation and challenges faced, coupled with the availability of  
5 innovation and new technology in sports and exercise, countries have capitalized on technology  
6 and innovation to increase awareness about the importance of regular physical activity in making  
7 them more physically active and adopt this as a lifestyle. For instance, LifeCoin is used in the US  
8 to make people more physically active to maintain their health. It is an app that promises to  
9 reward users for walking and running outdoors. With every verified step, the users earn Life  
10 Coins, which they can exchange for gift cards or discount codes. Users can also get rewards  
11 through activities and earn Life Coins with their friends and family when they refer them. Users  
12 who have registered with the app and are premium members can earn up to 10 Life Coins per  
13 day. Those registering for a free trial can earn a maximum of 5 Life Coins daily. Every 1,000 steps  
14 equal one Life Coin.<sup>4</sup> *The Singaporean government*, meanwhile, has worked with FitBit to  
15 provide its population with fitness trackers free of charge to promote health under the nation’s  
16 health care program “Live Healthy SG”.<sup>5</sup> *The South Korean government* has created Cashwalk,  
17 which is a free paid-to-walk application in which users can earn money just from walking. Users  
18 can redeem their earned coins for gift cards to exchange for foods, drinks, and leading beauty  
19 products.<sup>6</sup> *Japan* has the highest senior population ratio globally, and the number of senior  
20 citizens has risen yearly. The Japanese government has initiated Six-City-Partnership Smart  
21 Wellness Point Project to promote health. People participating in the project are required to  
22 register with an application. They receive points when the number of their steps increases by a  
23 certain amount and their body-mass index has improved. They can earn up to 24,000 yen (about  
24 7,680 baht) annually. Money and privileges are used as a reward to motivate people to exercise.  
25 Of the about 12,600 participants, 76 percent were people with no interest in exercise, such as  
26 those who did not exercise regularly (no exercise group) or those who had participated in health  
27 promotion programs but failed to exercise enough (inadequate exercise group). The project

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<sup>4</sup> CryptoSiam. (2021). *รวมแอป/ Exercise to earn Ti Na Son Jai Mai Pae Game P2E*, as of November 23, 2022,  
<https://cryptosiam.com/news/4-exercise-to-earn-apps-for-crypto-users>

<sup>5</sup> SINGSAVER TEAM. (2019). *Live Healthy SG: What Is It and When Can Singaporeans Sign Up?*, as of November 23, 2022,  
<https://www.singsaver.com.sg/blog/live-healthy-sg-hpb-fitbit-partnership-to-improve-health-of-singaporeans>

<sup>6</sup> INNO4TEACH. (2022). *Cash Walk Korea Helps You Earn Money for Walking*, as of November 23, 2022,  
<https://inno4teach.com/community/profile/garland3130114/>

1 shows that by providing incentives, exercise programs suited to them could motivate them to  
2 increase their exercise rate and promote behavioral changes among those with no interest in  
3 exercise, resulting in increased and ongoing physical activity.<sup>7</sup>

4 In the wake of the COVID-19 pandemic, countries have paid more attention to their  
5 population's physical and mental health and promoted health and well-being to ensure that  
6 they are physically and mentally healthy, which can enhance the quality of their lives. A quality  
7 population can contribute to the nation's growth and development. An international analysis  
8 suggests that making people more physically active has two main benefits: (1) It could help  
9 increase the nation's GDP by 0.3-1.0 percent per year and reduce the rates of illness and  
10 premature death. (2) It could help cut healthcare expenditures, as regular physical activity can  
11 help reduce the risk of heart disease, diabetes, and stroke. Statistics show that improving the  
12 physical activity rate could save billions of dollars in global healthcare expenditure. In Thailand,  
13 in particular, it would help the country save 1.3 billion baht on its healthcare expenditure in  
14 2025.<sup>8</sup>

15 To help people make behavioral changes and solve the problem of inadequate physical  
16 activity, Thailand should support them to be more physically active, increase the rate of playing  
17 sports and make these a lifestyle. It can be achieved by making the population across all age  
18 groups fully understand the importance of being healthy and supporting the formulation of  
19 policy proposals regarding behavioral changes and the population's needs to create awareness  
20 of the importance of maintaining health and sport development initiatives.

### 21 **3. Situation and trends**

22 The role of sports in enhancing a healthy lifestyle: Under Thailand's National Strategy (2018-  
23 2037), the country aims to support sports activities to promote the population's well-being in all  
24 dimensions and improve the activities to meet a quality standard. It also focuses on enhancing  
25 skills for sporting excellence and encouraging people to enter the international professional  
26 sports industry, which can bring pride to the nation while serving the country's sports industry.  
27 There are three main sub-plans regarding the roles of sports under Thailand's National Strategy.

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<sup>7</sup> Kume. (2017). *Let's Enjoy Walking for the Benefits of Better Health -- Smart Wellness Point Project*, as of November 23, 2022, [https://www.japanfs.org/en/news/archives/news\\_id03554.html](https://www.japanfs.org/en/news/archives/news_id03554.html)

<sup>8</sup> Hafner, M. et al. (2019). *The economic benefits of a more physically active population: an international analysis*. Santa Monica, CA: RAND Corporation.

1 Plan 1 involves supporting making physical activity and playing basic sports a lifestyle and  
2 motivating people to take part in workouts, sports activities, and recreational activities. Plan 2  
3 relates to promoting playing sports and entering the professional sports industry. Finally, plan 3  
4 embraces developing human resources for the sports and recreation sector.

5 The Ministry of Tourism and Sports is the key government agency driving the National Master  
6 Plans regarding sports activities. It is tasked with coordinating and working with related agencies  
7 to mobilize them for development to achieve the goals defined in Section 14 of the National  
8 Strategy, which states that Thai people shall have better health and increased good  
9 sportsmanship, discipline, and respect through playing sports. The goals also include supporting  
10 making physical activity and playing basic sports a lifestyle and motivating people to take part in  
11 workouts, sports activities, and recreational activities. This can be achieved by supporting youth,  
12 people, persons with special needs, and the unprivileged to get accurate knowledge about  
13 exercise. Basic first aid is playing certain sports that help develop life skills and having the  
14 freedom to engage in recreational activities that match their abilities or interests. Then, practice  
15 these regularly and make them a lifestyle. The ultimate goal is to make the Thai population of  
16 all age groups more physically active and increase participation in playing sports and recreational  
17 activities by at least 50 percent by 2027. The Ministry of Tourism and Sports is committed to  
18 “boosting the country’s economic growth” and developing tourism and sports that is clean,  
19 convenient, safe, fair, and environmentally friendly, which is in line with the BCG Model  
20 approach. Promoting physical activity and playing sports through sports tourism also helps drive  
21 the nation’s economy following the BCG Model concept by focusing on boosting the nation’s  
22 economic growth and developing tourism and sports through tourism and sports programs. This  
23 can help push the tourism and sports sector to tangibly change in order to reach the ultimate  
24 goal of boosting economic growth through sustainable tourism and sports.<sup>9</sup>

25 To achieve the goals, the Office of the Permanent Secretary, Ministry of Tourism and Sports  
26 has initiated Calories Credit Challenge (CCC) project, which serves as the central platform for  
27 gathering data on physical activity and sports activities from all units of the government and  
28 private sectors to be stored as Big Data. It contains data on the Thai population concerning  
29 exercise and sports behaviors, physical activity, and exercise while traveling. The CCC also  
30 encompasses a data dashboard on physical activity and playing sports classified by locations,

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<sup>9</sup> The office of Permanent Secretary of Ministry of Tourism and Sports (2021). *The Strategic Plan to Move Forward White Tourism through the BCG Model B.E. 2564-2565*. Bangkok: Permanent Secretary of Ministry of Tourism and Sports.

1 age groups, and forms of exercise, enabling easy tracking and analysis of the data in each  
2 location and promoting accuracy. This could help the county reach the goal of making Thai  
3 people exercise regularly by at least 50 percent by 2027.

4 The CCC app is a tool used to motivate and encourage Thai people to exercise  
5 meaningfully by accumulating all the calories they burn. Organizations and agencies can use the  
6 CCC app to motivate employees to be physically active and play sports to improve their health.  
7 People who take part in this program will receive CCC points which can be redeemed for  
8 rewards and privileges when they engage in workouts and achieve their fitness goals. The CCC  
9 app is intended to encourage state agencies, the private sector, and civil society to work  
10 together to make at least 50 percent of Thai people work out and play sports regularly and  
11 adopt it as a lifestyle by 2027. In addition, they can use the app and accumulate calories they  
12 burn when participating in “the 8<sup>th</sup> Walk Run Bike Fighting Stroke” and “Air Force Virtual Run x  
13 CCC” programs.

14 The tourism industry plays a prominent role in Thailand’s economic growth. In 2019, the  
15 country earned 3.03 trillion baht in tourism revenue and created 4,366,392 jobs.<sup>10</sup> Thailand has a  
16 decisive competitive advantage. The country ranked 31<sup>st</sup> in the travel and tourism  
17 Competitiveness Index 2019 (TTCI 2019). Unveiled by the World Economic Forum, the TTCI 2019  
18 evaluated 140 countries worldwide.

19 However, the rapid growth of the Thai tourism industry in the past had significant  
20 negative impacts on natural resources and the environment, which is a cause of great concern  
21 to many parties. To tackle the issue, the country has shifted its focus to quality tourism to  
22 balance the economy and the environment. This aligns with the United Nation’s Sustainable  
23 Development Goals, Thailand’s National Strategy, the National Master Plans, the National  
24 Reform Plans, and the National Tourism Development Plan, all of which focus on sustainable  
25 tourism development. As the leading agency that mobilizes Thailand’s tourism development,  
26 the Ministry of Tourism and Sports has realized the importance of sustainable tourism  
27 development to respond to the necessities of environmental and natural resource conservation,  
28 international and national policies, and new trends in tourism that place great emphasis on  
29 tourism that is friendly to the environment. A sustainable tourism development framework is

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<sup>10</sup> The office of Permanent Secretary of Ministry of Tourism and Sports (2020). *Report on Development of Tourism Satellite Account (TSA)*. Bangkok: The office of Permanent Secretary of Ministry of Tourism and Sports.

1 essential to Thailand’s economic, social, and environmental development. The tourism industry,  
2 meanwhile, plays a vital role in the country’s development through the Bio-Circular-Green  
3 Economy (BCG Model). On supply-side economics, tourism operators can adapt to and  
4 implement the BCG Model approach to produce products and improve their services. On  
5 demand-side economics, the operators can create demand for the Bio-Circular-Green Economy  
6 (BCG Model) by providing tourist services.<sup>11</sup>

7 In addition, driving the nation’s economy by implementing the BCG Model, which  
8 comprises bio-economy, circular economy, and green economy, coupled with the use of the  
9 CCC platform, could help boost the country’s tourism and sports sector sustainably in parallel  
10 with having healthy bodies as well as a healthy society and environment. It also encourages  
11 quality physical activity and sports providers to implement the Bio-Circular-Green Economy (BCG  
12 model) framework in their operations while raising participants’ awareness of the importance of  
13 environmental conservation. Furthermore, developing quality providers of physical activity and  
14 sports activities with green in mind would be another important mechanism to motivate local  
15 and foreign tourists to visit provinces committed to organizing exercise and sporting events to  
16 promote health.

### 17 **The BCG Model through the tourism dimension**

18 *Bio-economy through the tourism dimension:* This focuses on eco-tourism that involves  
19 being responsible for travel to natural areas and conserving the environment. Eco-tourism is  
20 built on the richness of natural resources and biodiversity to create value and income for local  
21 communities that develop uniquely home-grown products. It also includes enhancing the  
22 beauty of tourist attractions and preserving rare animals and local wisdom.

23 Bio-tourism requires an “outside-in” marketing strategy, which involves creating or  
24 representing the striking features of the local community to draw potential outsiders to visit the  
25 area, explore the locals’ way of life, buy products, and use the services it offers. This helps  
26 increase the number of home-grown products and add value to them and to services that  
27 contribute to the community’s economy. In addition, when the community can create income  
28 from its local resources, it would be able to split the generated income or profit to help support

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<sup>11</sup> The office of Permanent Secretary of Ministry of Tourism and Sports (2021). *The Strategic Plan to Move Forward White Tourism through the BCG Model B.E. 2564-2565*. Bangkok: Permanent Secretary of Ministry of Tourism and Sports.

1 the local natural resources preservation and rehabilitation programs, thereby improving  
2 sustainability.

3 *Circular economy through the tourism dimension:* This involves planning the use of  
4 resources among tourism operators such as hotels, accommodation, food and drinks providers,  
5 and airlines in order to renew and recycle them; for instance, promotion of reuse, keeping waste  
6 to a minimum as well as waste management in production and consumption.

7 *Green economy through the tourism industry:* This encompasses creating balanced  
8 tourism across three aspects; (1) the economy, (2) the society, and (3) the environment for  
9 sustainable tourism development.

10 According to the Ministry of Tourism and Sports' policy, sports tourism plays a vital role in  
11 the growth of commercial tourism. Sports tourism focuses on creating values and sustainability.  
12 It is a unique form of tourism, blessed with a comprehensive range of colorful activities to draw  
13 the attention of high-quality tourists. It can help generate income for secondary cities, local  
14 communities, and small business operators who can arrange sporting events and recreational  
15 activities to attract the attention of tourists. In other words, sports and medical tourism help  
16 boost and add value to the country's economy.<sup>12</sup>

17 The Office of the Permanent Secretary, Ministry of Tourism and Sports, which is the  
18 principal state agency responsible for developing and promoting the tourism and sports sector,  
19 as well as encouraging Thai people to be physically active, have realized the importance of  
20 driving the exercise and sports promotion policy development and making sports tourism  
21 promotion part of public policy. As such, the office has developed the Calories Credit Challenge  
22 (CCC) through the Bio-Circular-Green Economy (BCG Model) by using "health assembly" as a  
23 mechanism to develop and drive it as the public policy.

24 According to the National Health Act 2007, the National Health Assembly is one of the  
25 most critical social mechanisms to facilitate evidence-based policy-making, emphasizing inclusive  
26 participation following the National Health Reform, which focuses on "building is better than  
27 repairing." The assembly determines the draft of the 3<sup>rd</sup> Charter on the National Health System  
28 as a framework and direction for setting policies and strategies and working on the country's

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<sup>12</sup> The Ministry of Tourism and Sports (B.E. 2565). Policies of the Ministry of Tourism and Sports, as of November 20,  
2022, <http://www.oic.go.th/FILEWEB/CABINFOCENTER3/DRAWER065/GENERAL/DATA0000/00000356.PDF>



1 health issues to ensure inclusive participation and achieve the goal of creating a “fair national  
2 health system.”

3 According to Section 25(3) and Section 41 of the National Health Act, members of the  
4 National Health Committee shall meet at least once a year. So far, four resolutions are related  
5 to Calories Credit Challenge (CCC) through the BCG Model. The first is the resolution of the 5<sup>th</sup>  
6 National Health Assembly held in 2012 involving system and infrastructure management that  
7 promotes walking and cycling in daily life. The project aimed to increase awareness of the  
8 importance of walking and cycling and promote collective collaboration to develop a walking  
9 and cycling system and infrastructure for short trips. The second is the resolution of the 10<sup>th</sup>  
10 National Health Assembly held in 2017 that encouraged Thai people of all ages to be more  
11 physically active. This was done by providing them with knowledge, understanding, managing  
12 knowledge, creating innovations, and developing the capabilities of personnel, organizations, and  
13 networks that facilitate physical activity programs. The third and the fourth are the resolution of  
14 the 11<sup>th</sup> National Health Assembly held in 2018 that involved co-creating public spaces for  
15 healthy cities toward sustainable development and developing health literacy of NCDs  
16 prevention and management.

17 The BCG Model is associated with the philosophy and the concept of a health system  
18 development as defined in the 3<sup>rd</sup> Charter on National Health System draft. This focuses on  
19 developing inclusive participation from the government/politics, academics/professions, civil  
20 society/the private sector, and creating an environment and an ecosystem conducive to health  
21 and well-being. This can be achieved by creating health promotion activities; managing social  
22 determinants of health and other factors that impact health; supporting personnel development  
23 of all age groups; developing skills that include health literacy, digital literacy, and  
24 environmental literacy; encouraging people to become active citizens; and developing social  
25 responsibility. This can make people, the community, and society as a whole aware of their  
26 health rights, develop the role of self-care in achieving the right to health, take care of  
27 themselves, their family, and the community in order to avoid bad health habits, and adopt  
28 personal health responsibility. In addition, Thai people must be given accurate and adequate  
29 information to play a role, be supported, and be proud to work for action.

30 The Calories Credit Challenge (CCC) through the BCG Model shall be an effective  
31 mechanism that supports a desirable health system development by using exercising, playing  
32 sports, and physical activity to link the two concepts to create a new economy. Therefore, it will

1 help upgrade the tourism and sports sector while sustainably adding value to the national  
2 economy.

#### 3 **4. Relevant Policies, Strategies and Plans**

4 The Thirteenth National Economic and Social Development Plan (2023-2027) is an important  
5 mechanism that puts the National Strategy into practice to accelerate operations carried out by  
6 a network of developers to promptly achieve the National Strategy goals. This 13<sup>th</sup> national  
7 development plan aims to ensure that Thailand will overcome any challenges and become “a  
8 developed country that is safe, rich and sustainable, with development based on the  
9 Philosophy of the Sufficiency Economy” in line with the National Strategy.

10 The Calories Credit Challenge (CCC) through the Bio-Circular-Green Economy (BCG Model) is  
11 linked to Development Milestones 2 and 4. Milestone 2 describes Thailand as a tourist  
12 destination focusing on quality and sustainability, linked to the National Strategy that involves  
13 developing national competitiveness. This can be achieved by diversifying tourism products and  
14 maintaining the country’s reputation as one of the top destinations for tourists worldwide to  
15 draw tourists’ attention at all levels and increase the ratio of “quality” tourists. Milestone 4,  
16 meanwhile, defines Thailand as a high-value medical/health hub linked to digital technology  
17 and information system development to support medical services through significant national  
18 health database development. This can be achieved by developing collaboration between  
19 related agencies by signing an agreement to use the central digital technology system and  
20 platforms that connect the shared database of state agencies concerning personal data  
21 protection.<sup>13</sup>

#### 22 **4.1 Digital Government Development Plan (2023-2027)**

23 Digital disruption is changing the provision of services and transforming the financial sector. It  
24 has also affected the daily lives of people and how businesses operate significantly. A survey  
25 shows that Internet penetration in Thailand stands at 69.5 percent of the total population,  
26 above the average 59.5 percent penetration rate recorded worldwide. According to Digital 2021:

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<sup>13</sup> The Royal Thai Government Gazette (B.E. 2565). The 13th National Economic and Social Development Plan (B.E. 2566-2570) The Royal Thai Government Gazette. Volume 139

1 Global Overview Report,<sup>14</sup> many users use Internet broadband via mobile devices. The number  
2 of online transactions using digital payment, online shopping, services, digital orders for food and  
3 beverage, and digital services of governmental agencies also increased. <sup>15</sup> Due to changes in the  
4 social and business environment, the government realizes the need to implement digital  
5 transformation at its offices to improve services in response to the increasing demand of Thai  
6 people and businesses who require digital services. To make tangible changes, the Thai  
7 government has imposed the Digitalization of Public Administration and Service Delivery Act B.E.  
8 2562 and developed Thailand's Digital Government Development Plan in response to changes in  
9 government operations and services in line with the National Strategy, the National Reform  
10 plans, the National Economic and Social Development Plan and Digital Development for  
11 National Economic and Social Development. As a result, the Digital Government Development  
12 Agency (Public Organization) has formulated Thailand's Digital Government Development Plan  
13 (2023-2027) with three main objectives. They are (1) to improve government services and deliver  
14 services that are of high quality, effective and acceptable, and create inclusive participation; (2)  
15 to support all state agencies to implement innovations and technology in their everyday  
16 operations in order to increase productivity; and (3) to serve as a framework that enables all  
17 state agencies to set plans in line with the Digitalization of Public Administration and Services  
18 Delivery Act B.E. 2562 and create continuity of Thailand's digital government development.

19 Thailand's Digital Government Development Plan aims to improve and streamline the  
20 government's operations to provide services to Thai people better while narrowing the  
21 inequality gap and increasing the business sector's capabilities and competitiveness. The plan is  
22 also focused on creating transparency by voluntarily disclosing information to the Thai people,  
23 supporting inclusive participation, and developing the government into adaptable and flexible.  
24 Four strategic development plans have been set to achieve the vision. Strategy 1 involves  
25 developing services that are convenient and easily accessible. Strategy 2 relates to creating  
26 added values and facilitating the business sector. Strategy 3 incorporates promoting the  
27 participation of the Thai population and proactive disclosure of government information. Finally,

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<sup>14</sup> Marketeeronline. (B.E. 2564). *Internet Users in Thailand compared to other countries*, B.E. 2564, as of November 21, 2022, <https://marketeeronline.co/archives/208372>

<sup>15</sup> Digital Government Development Agency (B.E. 2564). *History of Thailand's Digital Government Development Plan B.E. 2563-2565*, as of July 6, 2022, <https://www.dga.or.th/policy-standard/policy-regulation/dga-019/dga-024/dga-027/>

1 strategy 4 encompasses upgrading the government’s digital transformation to create flexibility in  
2 management while expanding the plans to the local government level.<sup>16</sup>

### 3 4.2 Sustainable Development Goals (SDGs)

4 The United Nations Human Environment Conference was held in Stockholm, Sweden, in  
5 1972. The World Commission on Environment and Development was formed in 1983 to  
6 unite countries pursuing sustainable development and conduct a study on creating a  
7 balance between the environment and development. The United Nations then published a  
8 report entitled “Our Common Future,” calling on people to make a lifestyle change to help  
9 the environment. The report laid the foundations for the Earth Summit in Rio de Janeiro in  
10 1992. The United Nations Brundtland Report defined *sustainability* as “meeting the needs of  
11 the present without compromising the ability of future generations to meet their own  
12 needs.”<sup>17</sup> Thailand’s SDG Roadmap was set up to enable the country to achieve sustainable  
13 development goals. It requires collaboration and inclusive participation of the national and  
14 local governments and a strong community. Under the roadmap, provinces are classified  
15 into four groups characterized by the potential development to make it easy to manage.  
16 Group 1 includes areas/provinces with high inequality and lack of preparation that require  
17 urgent support. Group 2 belongs to areas/provinces with developmental potential but  
18 severe restrictions. Group 3 contains areas/provinces with developmental potential ready for  
19 development. Group 4 belongs to strong provinces which are ready to expand. The roadmap  
20 covers six aspects of operation: (1) raising awareness; (2) linking the SDGs to the three  
21 national plans; (3) mechanisms that drive sustainable development; (4) implementing the  
22 plan to achieve the SDGs; (5) working with a network of developers; and (6) follow-up and  
23 evaluation. The National Committee on Sustainable Development (NCSD) has assigned the  
24 Office of the National Economic and Social Development Council, which acts as the NCSD’s  
25 Secretariat, to work with other agencies to drive the plans successfully.

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<sup>16</sup> Digital Government Development Agency. (B.E. 2565). (Draft) *Thailand’s Digital Government Development Plan B.E. 2566-2570*, as of November 21, 2022, [https:// www.dga.or.th/wp-content/uploads/2022/08/ร่างแผนพัฒนารัฐบาลดิจิทัล-66-70-V5.3.1.pdf](https://www.dga.or.th/wp-content/uploads/2022/08/ร่างแผนพัฒนารัฐบาลดิจิทัล-66-70-V5.3.1.pdf)

<sup>17</sup> Dai, J., & Menhas, R. (2020). Sustainable development goals, sports and physical activity: the localization of health-related sustainable development goals through sports in China: a narrative review. *Risk management and healthcare policy*, 13, 1419.

1 With just ten years to go, an ambitious global effort is underway to deliver the promise. The  
2 Decade of Action initiated by the UN calls for accelerating sustainable solutions to all the  
3 world's biggest challenges. However, more collective efforts and work must be carried out to  
4 give tangible results which will significantly benefit the Thai people and the country.  
5 Recommendations<sup>18</sup> were made to help Thailand reach its goals. They include creating  
6 collaboration in order to work more effectively and produce tangible outcomes despite limited  
7 budget and resources and developing the central database and tracking system, data analysis  
8 and evaluation that meet international standards, particularly data collection system, data  
9 classification, and data that can illustrate the country's developments in all aspects. Data  
10 collection methods and technologies should also vary to improve accuracy and effectiveness.  
11 Other suggestions include supporting the integration of the economic, social, and environmental  
12 database to enable issuing of appropriate policies and measures; and working on evidence-  
13 based practices to follow up and assess agencies' performance effectively and promptly.  
14

#### 15 **4.3 Strategy for Bio-Circular-Green Economy (BCG Model) (2021-2027)**

16 The Bio-Circular-Green Economy (BCG Model) is a turnkey development plan focused on  
17 economic development in three dimensions simultaneously: (1) bio-economy; (2) circular  
18 economy; and (3) green economy. Bioeconomy is economic activity that efficiently uses natural  
19 resources to create added values, focusing on high-value product development. The bio-  
20 economy is linked to the circular economy that emphasizes carefully managing resources and  
21 materials to keep them circulating for as long as possible. The bio-economy and the circular  
22 economy are part of the green economy, an economic development model that prioritizes  
23 balanced growth of the economy, society, and environment to promote security and  
24 sustainability.

25 The green economy enables Thailand to turn the richness of its biodiversity and culture  
26 into a competitive advantage by using innovations to create the Bio-Circular-Green Economy  
27 (BCG Model) and pave the country's path toward high economic competitiveness in the global  
28 market. The economic system also promotes distributing income to the local community and  
29 narrowing inequality while creating strong communities and promoting environmental

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<sup>18</sup> The Office of the National Economic and Social Development Council (B.E. 2564). *Report on Progress of Thailand's Sustainable Development Goals, B.E. 2559-2563*. Bangkok: The Office of the National Economic and Social Development Council

1 friendliness and sustainable development. To achieve this, state agencies need to work closely  
2 in unity and strength, focusing on global competitiveness and community benefits. A quadruple  
3 helix framework that describes the private sector, the government sector, the university, and the  
4 local community interactions shall need to be implemented along with the global collaboration  
5 to make it more effective.<sup>19</sup>

#### 6 **4.3.1 Bio-Economy**

7 The bio-economy is economic activity that is built on biological resources and  
8 agricultural produce by using knowledge and innovation, particularly biological science, to  
9 create added values to products and services in different fields such as the agricultural  
10 and food sector, medical health, and the energy sector to ensure the balanced growth of  
11 the economy, society, and the environment (the National Science and Technology  
12 Development Agency, 2021).<sup>20</sup> The term “bio-economy” has been widely used worldwide  
13 over the past few years. According to the Bio-Economia Argentina report published in 2017,  
14 bio-economy or bio-based economy is economic activity that involves using biological  
15 resources, biological processes, and biotechnology in producing products and services and  
16 other fields. In 2012, the European Commission defined the bio-economy as “the  
17 production of renewable biological resources and converting these resources and waste  
18 streams into value-added products such as human and animal food products and bio-  
19 energy. Meanwhile, the Global Bioeconomy Summit held in 2015 concluded that the bio-  
20 economy would contribute to achieving the 17 United Nations Sustainable Development  
21 Goals by 2030. The new economic concept must be integrated into policies, strategies,  
22 and action plans.<sup>21</sup>

#### 23 **4.3.2 Circular Economy**

24 The circular economy is an economic activity that involves planning and designing  
25 waste to keep products and materials in use for as long as possible instead of disposing of  
26 them after consumption. In a circular economy, used products and materials are recycled,  
27 reused, and upcycled to keep them circulating for as long as possible, thus helping to

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<sup>19</sup> The National Science and Technology Development Agency (B.E. 2564). *BCG Model*, as of July 6, 2022,  
<https://www.bcg.in.th/bcg-by-nstda/>

<sup>20</sup> The National Science and Technology Development Agency. (B.E. 2564). *GREEN ECONOMY*, as of July 7, 2022,  
<https://www.bcg.in.th/bioeconomy/>

<sup>21</sup>

The National Science and Technology Development Agency (B.E. 2561). *Bioeconomy*. Patumthani:  
The National Science and Technology Development Agency

1 create added value. This new production and consumption approach aims to conserve  
2 natural resources and create a balanced use of natural resources and an effective system  
3 and design to reduce negative environmental impacts. This can be seen in using  
4 renewable energy and reducing harmful chemicals in waste, which are obstacles to a  
5 circular economy as well as transforming the way of designing materials, products,  
6 systems, and business models to create innovation. Meanwhile, the linear economy is the  
7 traditional model in which many natural resources are used before they are transformed  
8 into products during production. Manufacturers then sell the products to their customers.  
9 Finally, consumers use the products until they discard them as waste. To solve this issue,  
10 the business sector needs to transform business models from linear to circular economies  
11 that promote natural resource reuse and recycling. The circular economy can also help  
12 solve the shortage of natural resources, a global issue while creating sustainable growth.<sup>22</sup>

### 13 **4.3.3 Green Economy**

14 The concept of a green economy has arisen from the need to resolve the critical  
15 issues the world is facing and pave the way to rebalancing societies disrupted by the  
16 effects of an increasing global population that requires increasing overall food and  
17 energy production and rising demand for land for both agricultural and residential  
18 purposes. Economic development and growth affect natural resources, which can lead to  
19 over-consumption, depletion, and deterioration, particularly the release of some harmful  
20 substances into the atmosphere that pollute the environment. As a such, economic  
21 activity that prioritizes reasonable use of natural resources, environmental sustainability,  
22 and the importance of reducing greenhouse gas emissions not only promotes equal  
23 distribution of wealth but can be an ideal approach to be implemented by any country  
24 dedicated to green sustainability.<sup>23</sup>

### 26 **4.4 The 7<sup>th</sup> National Sports Development Plan (2023-2027)**

27 The 7<sup>th</sup> National Sports Development Plan (2023-2027) is supported by National Sports  
28 Policy Act B.E. 2561. The plan was formulated in compliance with the law governing relevant  
29 governmental agencies and any units supervised by the agencies, which are tasked to

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<sup>22</sup> Ratima Kachanun. (2558). *Circular Economy*, as of July 7, 2022,

[https://www.parliament.go.th/ewtadmin/ewt/parliament\\_parcy/ewt\\_dl\\_link.php?nid=50024&filename=house2558](https://www.parliament.go.th/ewtadmin/ewt/parliament_parcy/ewt_dl_link.php?nid=50024&filename=house2558)

<sup>23</sup> The National Science and Technology Development Agency (B.E. 2564), *GREEN ECONOMY*, as of July 7, 2022,

<https://www.bcg.in.th/green-economy/>

1 perform duties as stated in the national development plan in devising sports development  
2 action plans that accommodate the national plan and undertake duties to achieve the  
3 plan's goals as defined in Section 35 of the National Sports Policy Act.

4 The 7<sup>th</sup> National Sports Development Plan (2023-2027) has four key areas of development  
5 as follows.

6 The first area involves promoting physical activity and developing basic skills in sports  
7 among children and youth to make them aware and realize the importance of exercising and  
8 playing sports safely, following rules and regulations, having a positive mental attitude, being  
9 disciplined, and showing sportsmanship. It also promotes and supports arrangements of sporting  
10 events and competitions that meet the particular abilities and interests of youth, which can, in  
11 turn, develop ongoing participation in exercise and sports, thereby promoting well-being and  
12 developing sporting excellence.

13 The second area is related to promoting and developing physical activity and doing sports  
14 for the public a lifestyle in order to create acknowledgment and realization of the benefits and  
15 promote exercise. It also encourages all age groups (individuals, the disabled, people with  
16 special needs, and the underprivileged) to exercise and play sports. This is a lifestyle to maintain  
17 health and well-being, prevent them from developing NCDs, and reduce healthcare expenditure.  
18 This can be achieved by cultivating a sports mindset in people of all age groups; promoting and  
19 supporting regular sporting events arrangements; supporting the development of infrastructure,  
20 gyms, and sports centers as well as sports facilities for people of all age groups.

21 The third area involves promoting and developing sporting excellence and supporting  
22 those who want to turn their passion for sports into a career; supporting the development of  
23 potential in athletes and athletes with disabilities; creating and developing national athletes and  
24 empowering them to be successful in competitions at all levels; and supporting promising  
25 athletes to enter the professional sports industry and play sports as a profession sustainably.  
26 This can be achieved by developing sports infrastructure such as gyms and facilities to support  
27 athletes and athletes with disabilities to reach their potential and by supporting upgrading sports  
28 for excellence and sports as a career to meet international standards.

29 The fourth area prioritizes promoting and developing personnel in sports and personnel  
30 related to sports to accommodate the target groups in the sports supply chain upstream,



1 midstream, and downstream. This can be achieved by developing a standard curriculum that  
2 enhances the capabilities of sports personnel in all groups, including physical education  
3 teachers, sports volunteers, coaches, umpires, CEOs of sports organizations, sports science  
4 personnel, and other relevant personnel in the sports industry. These include sports lawyers,  
5 sports architects, sports media, and others related to sports personnel of all groups to meet  
6 international standards and who are certified by an international body or a specific standard  
7 equivalent to international standards. These individuals are the driving force behind the success  
8 of sports development at all levels, from developing fundamental sports skills, sports for the  
9 public, sports for excellence, sports as a career, and the national sports industry effectively.

10 The fifth area encompasses promoting and supporting sports industry development in order  
11 to increase the competitiveness of businesses related to the sports industry that covers the  
12 production, trade, and service sectors; supporting the arrangements of activities and  
13 international and national sports festivals as well as international sports events and private  
14 sports events to promote the sports tourism sector that can create added value and contribute  
15 to the nation's economy continuously.

#### 16 **4.5. The 3<sup>rd</sup> National Tourism Development Plan (2023-2027)**

17 The 3<sup>rd</sup> National Tourism Development Plan prioritizes readiness for changes and risks  
18 and sustainable growth, and building inner strength. It is centered on the promotion of the  
19 domestic tourism industry, development of the modern travel and tourism industry through  
20 using digital technology and innovations, upgrading the quality of personnel and operators for  
21 the tourism industry, and helping them become adaptable to the new normal of travel as  
22 countries recover from the Covid-19 pandemic. In addition, the plan aims to promote  
23 collaboration among all relevant parties from the government sector, the private sector, local  
24 government, and the public, with the National Tourism Policy Committee and Tourism  
25 Development Areas responsible for mobilizing for development. The plan serves as a framework  
26 for developing the tourism industry to make it truly achieve its vision and goals.

27 The 3<sup>rd</sup> National Tourism Development Plan (2023-2027) is intended to comprehensively  
28 develop and mobilize the tourism industry in all areas over the next five years. Tourism  
29 Thailand's vision is to "create value-based tourism, develop adaptations that enable those  
30 involved to cope with changes, sustain growth, and promote inclusive participation." Therefore,  
31 the Thai tourism industry has dramatically emphasized strengthening the sector for the future  
32 after Covid-19, continuing to develop and improve the industry, and establishing new levels of

1 resilience under the next normal to make it high-value tourism. To achieve these goals, the  
2 industry centers on three dimensions of development. Dimension 1 involves upgrading the  
3 sector, contributing to a high value-added economy. This can be achieved by increasing tourism  
4 spending; increasing the number of high-quality tourists; creating added value to tourism  
5 products and services by capitalizing on technology and innovation; creating a balanced tourism  
6 industry in order to reduce reliance on international tourists; and improving the quality of  
7 personnel and human resources for the tourism industry.

8 Dimension 2 prioritizes a high-value society and community development. This can be  
9 achieved by creating collaboration in the government sector, the private sector, the public, and  
10 the community; increasing the uniqueness of all things Thai; distributing advancements directly  
11 and indirectly nationwide, making tourist destinations great to visit all year round and reducing  
12 seasonality.

13 Dimension 3 encompasses creating high-value natural resources and the environment. This  
14 can be achieved by creating added value to the natural resources and environment capital of  
15 the tourism sector; managing the nation's natural resources and natural attractions effectively;  
16 increasing the effectiveness of water and energy consumption; reducing tourism pollutants and  
17 greenhouse gas emissions; and lessening the negative impacts of climate change.

## 18 **5. Guidelines for driving the Calories Credit Challenge (CCC) through the BCG Model**

19 Driving the CCC platform through the BCG model approach requires 1) creating knowledge  
20 and acknowledgment, raising awareness, and promoting the use of the CCC platform; 2)  
21 supporting the use of the platform; 3) devising operational and action plans to promote  
22 exercise, sports participation, and physical activity; 4) supporting the creation of added value to  
23 the domestic tourism sector that contributes to the economy through sporting activities. Details  
24 of the plans are as follows.

25 **5.1. All relevant parties shall create knowledge and acknowledgment, increase**  
26 **awareness as well as promote the use of the CCC platform through the BCG concept.**

27 To achieve this, they should educate the relevant agencies and people, make them  
28 understand the plan and the concept, and provide access to the platform. They should also  
29 provide knowledge of the platform's functions, how the database is linked, and the benefits of  
30 using the platform associated with the BCG concept. In addition, they should promote setting

1 role models who will use the platform, for example, inviting an influencer as a role model and  
2 setting up the platform pilot provinces, which can help create acknowledgment and  
3 understanding and encourage an urge to use the platform in order to help them be more  
4 physically active and increase sports participation. Finally, it is also important to implement data  
5 security standards to keep personal data safe on the platform, boosting user confidence.

6 **5.2. Setting the platform’s centralized database standard through the BCG**  
7 **model approach**

8 This could make people of all age groups physically more active, increase participation in  
9 sports and physical activity engagement, and make it a lifestyle. All relevant parties should work  
10 together to set the platform’s centralized database standard that links the data on the Thai  
11 population’s behaviors in exercising, participation in sports, and physical activity together on the  
12 platform so that they can use the shared data effectively. It is crucial to support the linkage of  
13 the CCC point program to rewards and privileges on the platform and ensure that people who  
14 reach their fitness goals benefit from the program.

15 **5.3. Developing operational plans to promote working out, sports participation,**  
16 **and physical activity engagement and using the platform following the BCG model**  
17 **concept.**

18 The government sector should promote the availability of gyms and sports centers  
19 nationwide, which provide easy access to people. They should also support the development of  
20 healthy pilot spaces that promote exercise, playing sports, and physical activity engagement,  
21 which could encourage people to use the platform. In addition, sporting activities and event  
22 arrangements could motivate and inspire people to get physical. It is imperative that all relevant  
23 parties who play a role in physical activity promotion work closely together in order to make the  
24 Thai population of all age groups physically more active and make exercise a lifestyle.

25 **5.4. Supporting the creation of added value to the domestic tourism sector that**  
26 **contributes to the economy through sporting activities**

27 This can be achieved by letting all relevant parties collaborate in a network and work closely  
28 on a tourism and creative economy strategic plan that integrates the BCG model approach on  
29 the platform. Furthermore, the joint effort can lead to collaborative expansion with other

1 players in industries in order to accommodate tourism activity arrangements related to sporting  
2 activities and events. There is also a need to support collaboration between administrations of  
3 large and secondary cities and push them to work together to promote sport tourism activities  
4 parallel to the BCG model concept. This boosts the grassroots economy by generating income  
5 for the local community while adding value to the domestic sports tourism sector, contributing  
6 to the economy.

## 7 6. Systems and mechanisms that accommodate driving the CCC platform 8 through the BCG model

9 Thailand has several work systems and mechanisms to help drive the CCC platform  
10 through the BCG model concept. These include the government sector; the private sector;  
11 the academic sector; and a network of civil society, with the Ministry of Tourism and  
12 Sports, the Ministry of Education, the Ministry of Higher Education, Science, Research and  
13 Innovation, the Ministry of Public Health, the Ministry of Interior, the Ministry of Social  
14 Development and Human Security, the Ministry of Labour, the Ministry of Transport and  
15 other relevant units being the leading agencies responsible for mobilizing development.  
16 Meanwhile, central and local educational institutes and the Thai Health Promotion  
17 Foundation represent the academic sector. Cariva (Thailand) Co Ltd, Max Solutions Co Ltd,  
18 Avarin Intergroup Co Ltd, and MICE & Communication Co Ltd represent the private sector.  
19 Other players and associations behind the driving of the CCC platform through the BCG  
20 concept include the Thai Jogging Federation, the National Jogging Association of Thailand,  
21 and the Thai Mass Participation Sports Trade Association.

22 The CCC platform is now in the initial process of driving. However, a factor analysis found  
23 that the project has faced several challenges. These are limits to knowledge creation, the  
24 understanding of the concept of the CCC platform through the BCG approach; boosting  
25 confidence in the security standards and personal data protection on the platform; creating  
26 brand awareness of the CCC platform among the public; and setting standards of the platform's  
27 central database for the shared benefits of users.

28 The barriers to achieving the goals also include pushing all relevant parties towards the  
29 linkage of data on physical activity behaviors of the Thai population on the platform; creating  
30 acceptance of the CCC point program that rewards participants with various privileges;

1 supporting the private sector to work with a network of alliances in order to make the project  
2 sustainable; developing and designing a platform that is friendly to users and easily accessible to  
3 ensure that people of all age groups and foreign tourists can use it comfortably.

4 Other challenges are motivating people who have never engaged in physical activity to  
5 do so; expanding the target group to cover people of all age groups; supporting the local  
6 community to participate in upgrading the nation's tourism and sports sector as a network of  
7 local operators to work with the government and private sectors in order to arrange commercial  
8 sports activities and sport tourism activities that integrate the BCG model concept. This will help  
9 create added value to the domestic tourism sector, contributing to the economy and enabling  
10 the shared benefits of all relevant parties.

#### 11 **7. Recommendations for the National Health Assembly's consideration**

12 The National Health Assembly must consider the report of the 15th National Health  
13 Assembly, Agenda 15.2, which involves driving the Calories Credit Challenge (CCC) through the  
14 Bio-Circular-Green Economy (BCG) model concept.

15