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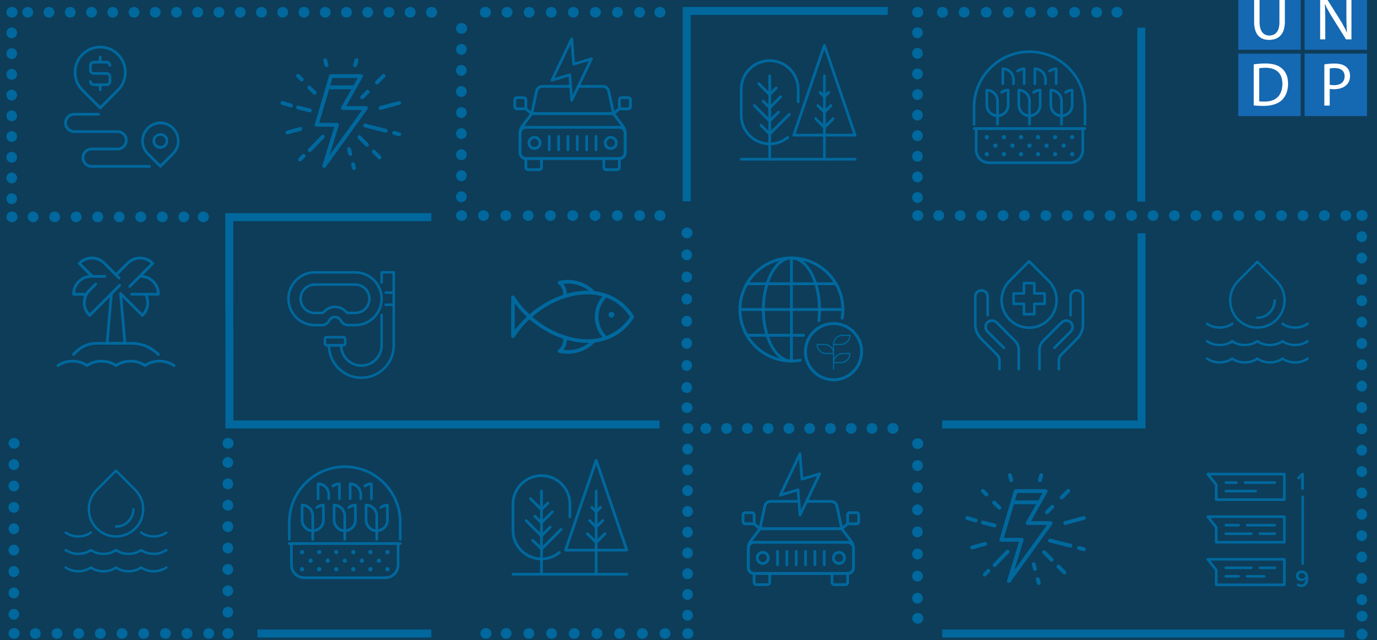

GUIDEBOOK

on the methodology for financial assessments to address climate change

ANNEX I: GLOSSARY OF TERMS FOR FINANCIAL ASSESSMENTS TO ADDRESS CLIMATE CHANGE

2026

About UNDP

UNDP is the leading United Nations organization fighting to end the injustice of poverty, inequality, and climate change. Working with our broad network of experts and partners in 170 countries, we help nations to build integrated, lasting solutions for people and planet. Learn more at undp.org or follow at @UNDP.

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UNDP's Climate Promise is the UN system's largest portfolio of support on climate action, working with more than 140 countries and territories and directly benefiting 37 million people. This portfolio implements over US$2.45 billion in grant financing and draws on UNDP's expertise in adaptation, mitigation, carbon markets, climate and forests, climate risk and security, and climate strategies and policy. Visit our website at climatepromise.undp.org and follow us at @UNDPplanet.

About this publication

This methodology is an update to the first financial assessment methodology, which was released in 2009. The objective of this methodology is to support countries to implement their climate targets and to identify, reallocate, mobilize and manage the required financial resources and to create a fiscal framework conducive for climate action.

The update to this methodology was developed under UNDP's Climate Promise by the *Pledge to Impact* Programme. Delivered in collaboration with a wide variety of partners, the initiative has supported over 120 countries to enhance and implement Nationally Determined Contributions (NDCs) under the Paris Agreement. From Pledge to Impact is generously supported by the governments of Germany, Japan, United Kingdom, Sweden, Belgium, Spain, Iceland, the Netherlands, Portugal and other UNDP core contributors. This programme underpins UNDP's contribution to the NDC Partnership.

UN disclaimer

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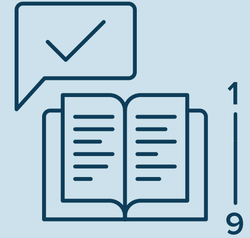
CLIMATE PROMISE

About this Guidebook



As countries identify their national climate change targets—notably through Nationally Determined Contributions (NDCs) under the Paris Agreement—the need exists to break down targets into concrete steps of action, determine a financial framework to implement actions and achieve targets, and identify policy measures to facilitate the necessary changes that support low-emission development and a low-carbon future.

A key component to support this transformation is through assessing national investment flows and financial flows to address climate change. Many countries have used this method to articulate an effective and appropriate national response to climate change.

This Guidebook responds to the needs of countries to have a clear approach to support the implementation of national climate targets in the context of sustainable development that duly accounts for their national circumstances, capacities and resources.

Between 2008 and 2024, 60 investment flow and financial flow assessments were conducted worldwide, with more than 1,000 national stakeholders engaged in the technical and political aspects of the assessments. Since the adoption of the Paris Agreement and the development of NDCs, the methodology has helped countries utilize financial assessments to develop a pathway to NDC implementation.

While this methodology was first developed in 2008, an update has taken place in 2025. This Guidebook is a living document, which will continue to be improved based upon the experiences of those using it. Over the years, the methodology to carry out financial assessments to address climate change has been continually reviewed and updated regarding its user friendliness, feasibility of implementation and sectoral scope. Comments are invited. Please send feedback to Susanne Olbrisch (susanne.olbrisch@undp.org).

For more information, visit https://climatepromise.undp.org/tags/investment-and-financial-flows-assessments.

Annex I. Glossary of terms for financial assessments to address climate change

Additional definitions that may be useful when preparing financial assessments can be found in the Intergovernmental Panel on Climate Change (IPCC) Guidelines for National Greenhouse Gas Inventories (2006).

Account: A statement of recent transactions and the resulting balance. An account is a tool which records, for a given aspect of economic life: (a) the uses and resources; (b) the changes in assets and the changes in liabilities; and/or (c) the stock of assets and liabilities existing at a certain time. The transactions accounts include a balancing item which is used to equate the two sides of the accounts (e.g., resources and uses) and which is a meaningful measure of economic performance in itself.

Adaptation: Adjustments in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities (IPCC, 2007). Various types of adaptation can be distinguished, as described below.

- *Anticipatory adaptation (or proactive adaptation):* Adaptation that takes place before impacts of climate change are observed.
- *Autonomous adaptation (or spontaneous adaptation):* An unconscious response to climatic change, triggered by automatic changes in a natural system and or in human systems.
- *Planned adaptation:* Adaptation that is the result of a deliberate policy decision, based on available knowledge that conditions have changed or are about to change and that action is required to return to, maintain or achieve a desired state (IPCC, 2017).

Adaptive capacity: The potential or capability of a system to adapt to (to alter to better suit) climatic stimuli or their effects or impacts. Smit, et al. (2001) identify six determinants of adaptive capacity: 1) economic resources; 2) technology; 3) information and skills; 4) infrastructure; 5) institutions; and 6) equity. Uncertainty surrounding adaptive capacity is one of the key limitations in estimating the costs of adaptation.

Adaptation cost estimate: Change in the total investment and financial flows in measures that affect GHG emissions between the Baseline and Target Scenarios.

Adaptation deficit: The lack of adaptive capacity to deal with climate change and variability. It is important to tackle any adaptation deficit before embarking on new adaptation activities.

Adaptive management: Management that seeks to use management interventions as a tool to strategically probe the functioning of an ecosystem. Interventions are designed to test key hypotheses about the functioning of the ecosystem. Adaptive management identifies uncertainties and then establishes methodologies to test hypotheses concerning those uncertainties. It uses management as a tool not only to change the system, but as a tool to learn about the system. Adaptive management is concerned with the need to learn and the cost of ignorance, while traditional management is focused on the need to preserve and the cost of knowledge.

Assets: Assets are entities functioning as stores of value and over which ownership rights are enforced by institutional units, individually or collectively, and from which economic benefits may be derived by their owners by holding them or using them over a period of time. The economic benefits consist of primary incomes derived from the use of the asset and the value, including possible holding gains and losses that could be realized by disposing of the asset or terminating it (System of National Accounts, 93).

Baseline or 'business-as-usual' scenario: A standard measurement or fact against which other measurements or facts are compared. A baseline scenario assumes no new additional measures are taken to address climate change.

Capital account: An account that records all transactions in non-financial assets.

Capital expenditure (in short 'capex'): An expense incurred when a business spends money either to buy fixed assets or to add to the value of an existing fixed asset with a useful life that extends beyond the taxable year. Capital expenditures are used by a company to acquire or upgrade physical assets, such as equipment, property or buildings.

In the oil industry, for instance, a capital expenditure would be the acquisition or upgrade of physical assets for oil production, such as refineries, and transport, such as pipelines. In the gas industry, a capital expenditure would be, for example, expenses used to acquire a liquefied natural gas plants.

Capital stock (gross): The value of all fixed assets still in use at the actual or estimated current purchaser price for new assets of the same type, irrespective of the age of the assets.

Capital stock (net): The sum of the written-down values[1] of all the fixed assets still in use. Net capital stock can also be described as the difference between gross capital stock and consumption of fixed capital.

Central bank: A public financial corporation which serves as a monetary authority that issues currencies (banknotes and sometimes coins) and may hold all or part of the international reserves of the country.

Central government: The body with political authority that extends over the entire territory of the country. A central government has the authority to impose taxes on all resident and non-resident units engaged in economic activities within the country.

Climate change scenarios: Coherent, internally-consistent and plausible descriptions of future situations, given certain assumptions about the growth of GHG emissions and other factors that may influence climate in the future. According to the United Kingdom Climate Impacts Programme, the uncertainties associated with the modelling of future climate scenarios have been divided by the UK Met Office Hadley Centre into three broad categories: (1) emissions uncertainty; (2) natural climatic variability; and (3) modelling uncertainty.

Carbon dioxide capture and storage (CCS): A set of technologies used to collect carbon dioxide (CO_2) from industrial processes and power generation and to separate and purify it, transport it to a storage site and compress it into a form suitable for storage. CCS is a mitigation strategy that captures carbon dioxide (CO_2) from large point sources and stores these emissions instead of releasing them into the atmosphere. It can be a contributor to emission reductions achieved under a mitigation scenario. However, before large-scale implementation of CCS can occur, technology development is required related to CO_2 capture.

Corporation: A legal entity created for the purpose of producing goods or services for the market that may be a source of profit or other financial gain to its owner(s). A corporation is collectively owned by shareholders who have the authority to appoint directors responsible for its general management.

[1] Written-down values of capital stock represent the current market value of fixed assets after accounting for accumulated depreciation.

Cultivated assets: Assets that yield repeat products that are under the direct control, responsibility and management of institutional units. Examples are livestock for breeding, dairy, draught, etc. vineyards, orchards and other tree plantations.

Debt (international loans): Any capital made across a border or offshore. Is an important additional financing source that provides resources to borrowers that have a demonstrated capacity to repay. International debt includes loans provided by commercial banks and bond sales in the capital market. Commercial bank loans generally cover periods from a few days to a few years. Bonds generally have a longer maturity, ranging up to decades. Debt lenders generally want little risk and are prepared to accept lower returns than equity investors.

Economic sector: The economy may be subdivided into sectors, which share the same or related products and services. Ten economic sectors are identified in the National Accounts.

1. Agriculture, hunting, forestry and fishing
2. Mining and quarrying
3. Manufacturing
4. Electricity, gas and water supply
5. Transport, storage and communications
6. Financial intermediation real estate, renting and business activities
7. Construction
8. Wholesale retail trade, repair of motor vehicles, etc., hotels and restaurants
9. Public administration and defense, compulsory social security
10. Education, health and social work; other community, social and personal services.

Note that the ten economic sectors for which Gross Fixed Capital Formation (GFCF) and Foreign Direct Investment (FDI) data are available do not always match the sectors used for the mitigation and adaptation analyses. Agriculture and forestry, for example, are analysed separately in this paper but are part of the same economic sector for GFCF and FDI data calculations.

Emissions sectors: Working Group III to the IPCC AR4 (IPCC, 2007c) identified eight major GHG emission sectors (with the relative percent contribution to global emissions).

1. Power Supply 21.0 % (includes generation, transfer and distribution)
2. Agriculture 14.0 %
3. Transport 13.0 %
4. Building 8.0 %
5. Fossil Fuel supply 5.0 %
6. Waste 3.0 %
7. Industry 19.0 %
8. Forestry 17.0 %

Energy subsidies: Any government action that concerns primarily the energy sector that lowers the cost of energy production, raises the price received by energy producers or lowers the price paid by energy consumers (International Energy Agency, 1999).

Equity: Asset entailing ownership after all debts associated with that asset are paid off.

Financial corporations: Resident corporations or quasi-corporations principally engaged in financial intermediation or in auxiliary financial activities closely related to financial intermediation. For example, banks and insurance companies that provide financial services to non-financial corporations, households and governments. They are typically responsible for 1-7 percent of the investment in new physical assets.

Financial flow: A financial flow entails an ongoing expenditure related to climate change mitigation or adaptation that does not involve investment in or acquisition of physical assets, such as forest management or health care.

Flows (economic): Reflect the creation, transformation, exchange, transfer or extinction of economic value. Flows involve changes in the volume, composition or value of an institutional unit's assets and liabilities.

Foreign direct investment (FDI): International investment that reflects the objective of a resident entity in one economy to obtain a lasting interest in an enterprise resident in another economy (World Bank, 2006a).Since the analysis focuses on investment in new physical assets, two values of total FDI can be compiled for each country:

- **Inward FDI:** Equity investment in new physical assets and acquisition of existing physical and financial assets in the recipient country.
- **Adjusted FDI:** Inward FDI, as reported, minus the value of international purchases in the recipient country, plus the value of international sales in the recipient country due to mergers and acquisitions.

Data on inward FDI, but not mergers and acquisitions, are available by sector. As a result, FDI estimates for some sectors or regions are either large or small relative to the investment in new physical facilities.

Foreign direct investment enterprise: An incorporated or unincorporated enterprise in which a direct non-resident investor owns more than 10 percent of the ordinary shares or voting power (for an incorporated enterprise) or the equivalent (for an unincorporated enterprise).

Foreign exchange (total reserves): The monetary gold, special drawing rights, International Monetary Fund (IMF) reserve positions, and holdings of foreign exchange under the control of monetary authorities. The gold component of these reserves is valued at year-end, London prices. Data should be reported in current USD.

General circulation model: Numerical models representing physical processes in the atmosphere, ocean, cryosphere and land surface. They are the most advanced tools currently available for simulating the response of the global climate system to increasing GHG concentrations.

GHG intensity: Emissions per unit of output.

Governments: Governments are the national, provincial, state and local authorities of a country. They invest in long-lived assets, such as transportation infrastructure, water supply, schools and hospitals, coastal infrastructure and natural ecosystems. Governments are typically responsible for 10-15 percent of total investment in physical assets in a country.

Gross domestic product (GDP): The sum of the gross values added of all resident producers at basic prices, plus all taxes less subsidies on products. GDP is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources.

Gross capital formation: The total value of the gross fixed capital formation, changes in inventories and acquisitions, less disposals of valuables for a unit or sector.

Gross capital stock: The value of all fixed assets still in use, at the actual or estimated current purchaser prices for new assets of the same type, irrespective of the age of the assets.

Gross fixed capital formation (GFCF): Spending on new physical assets in a country during a specified year and as reported in a country's national accounts. GFCF is measured by the total value of a producer's acquisitions, less disposals, of fixed assets during the accounting period plus certain additions to the value of non-produced assets (such as subsoil assets or major improvements in the quantity, quality or productivity of land) realized by the productive activity of institutional units. The GFCF sources for which data are typically available are: 1) households (including non-profit institutions); 2) corporations (financial and non-financial); and 3) government (World Bank, 2006a database and UNSTAT, 2006). The UNSTAT data were used for those countries for which there was no data in the World Development Indicators report. Data in the national currency can be converted to USD using the

exchange rates from the International Financial Statistics (IFS) database of the IMF. Missing values can be estimated using a regression equation. Regression analysis was conducted using the observed values of GFCF with GDP as the explanatory variable.

Gross national income (GNI): GDP minus net taxes on production and imports, less compensation of employees and property income payable to the rest of the world, plus the corresponding items receivable from the rest of the world. An alternative approach to measuring GNI at market prices is as the aggregate value of the balances of gross primary incomes for all sectors. (Note that GNI is identical to gross national product (GNP) as previously and generally used in national accounts.)

Industry sector: A group of establishments or enterprises engaged on the same, or similar, kinds of production activity. Note: petroleum refining is covered in energy supply, emissions associated with electricity generation are included in the energy supply sector. Regarding the worldwide industry sector, the key regulatory mechanism required is to ensure that CO_2 abatement opportunities are pursued in the industrial sector, a stable financial incentive to invest in low GHG emitting technology, such as a CO_2 price.

Households: Small groups of person(s) who share the same living accommodation, who pool some, or all, of their income and wealth and who consume certain types of goods and services collectively, mainly housing and food. Households are responsible for 15-35 percent of total global investments, all of which is assumed to come from domestic sources. However, remittances by family members working in foreign countries are substantial for some countries and help fund household investments in the recipient countries.

Investment: The purchase by a producer of a physical asset, such as durable equipment or inventory, in the hope of improving future business or with an expectation of favourable future returns, such as the capital cost of a photovoltaic unit or a water supply system.

Land under cultivation: Land on which agricultural or horticultural production is carried out for commercial or subsistence purposes, including, in principle, land under plantations, orchards and vineyards.

Limits to adaptation: Adaptation can considerably reduce the adverse impacts of climate change, but cannot eliminate them.

Loans: Financial assets created when creditors lend funds directly to debtors that are evidenced by non-negotiable documents.

Maladaptation: Actions taken that tend to increase vulnerability to climate change, contrary to the original intent.

Major renovations or enlargements (of fixed assets): Activities which increase the performance or capacity of existing fixed assets or significantly extend their previously expected service lives and so are classified as part of gross fixed capital formation. The decision to renovate, reconstruct or enlarge a fixed asset is a deliberate investment decision which may be undertaken at any time and is not dictated by the condition of the asset.

Mitigation: An anthropogenic intervention to reduce the sources or enhance the sinks of GHGs (IPCC, 2007).

Mitigation cost estimate: Change in the total investment and financial flows in measures that affect GHG emissions between the baseline and target scenarios.

National accounts: A complete and consistent conceptual framework for measuring the economic activity of a nation. The national account broadly presents the production, income and expenditure activities of the economic actors (corporations, government and households) in an economy, including their relations with other countries' economies and wealth. National accounts are coordinated and updated by the National Accounts Section of the United Nations Statistics Division.

The most recent year for which national account data is available for a large number of countries is 2025. Many countries report sources and/or economic sectors based on internationally agreed definitions, broken down as in the table below.

Sources	Economic sectors
Households	Agriculture, hunting, forestry and fishing
Government	Mining and quarrying
Financial corporations	Manufacturing
Non-financial corporations	Electricity, gas and water supply
	Transport, storage and communications
	Financial intermediation real estate, renting and business activities
	Construction
	Wholesale retail trade, repair of motor vehicles, motorcycles, etc. hotels and restaurants
	Public administration and defence, compulsory social security
	Education, health and social work, other community, social and personal services

Note: The ten economic sectors for which data are available do not always match the sectors used for the mitigation and adaptation analyses. Agriculture and forestry, for example, are analysed separately in the financial assessments but are part of the same economic sector in the National Accounts.

Net: Common means of referring to values after deducting consumption of fixed capital (for example, 'net capital stock' or 'net domestic product'). All the major balancing items in accounts from value added through to savings may be recorded gross or net. it should be noted, however, that the term 'net' can be used in different contexts in the national accounts, such as 'net income from abroad' which is the difference between two income flows.

Net official development assistance (ODA): Disbursements of loans made on concessional terms (net of repayments of principal) and grants by official agencies of the members of the Development Assistance Committee (DAC) of the Organisation for Economic Co-operation and Development (OECD), by multilateral institutions and by non-DAC countries (UNFCCC, 2007; OECD, 2007).

Non-financial assets: Entities over which ownership rights are enforced by institutional units, individually or collectively, and from which economic benefits may be derived by their owners by holding them or using them over a period of time, that consist of tangible assets, both produced and non-produced, and most intangible assets for which no corresponding liabilities are recorded.

Non-financial corporations: Corporations whose principal activity is the production of market goods (such as fossil fuels) or non-financial services (such as communications services). Non-financial corporations need physical facilities, such as commercial buildings, industrial plants and telecommunications facilities to provide the goods and services they offer.

Official development assistance (ODA): This includes loans with a grant element of at least 25 percent (calculated at a rate of discount of 10 percent). Only infrastructure-related ODA flows in different sectors defined in the Creditor Reporting System database of the OECD are considered for capital investment analysis (UNFCCC, 2007; OECD, 2007).

Private investment: Expenditures made by financial institutions and corporations, excluding public sector investment and R&D (whether funded by companies or governments).

Private investment in energy: Infrastructure expenditures in energy (fossil fuels, electricity and natural gas production, transport and distribution) that reached financial closure and directly or indirectly serve the public. Movable assets and small projects, such as home solar panels, are excluded.

Purchasing-power parity (PPP): The number of currency units required to buy goods equivalent to what can be bought with one unit of the currency of the base country or with one unit of the common currency of a group of countries. The PPP may be calculated for all of GDP, but also at levels of aggregation, like capital formation.

Sensitivity: Sensitivity is the degree to which a system is affected, either adversely or beneficially, by climate variability or change. The effect may be direct (e.g., a change in crop yield in response to a change in the mean, range or variability of temperature) or indirect (e.g., damages caused by an increase in the frequency of coastal flooding due to sea-level rise) (IPCC 4AR, 2007).

Social accounting matrix (SAM): Means of presenting the System of National Accounts in a matrix that elaborates linkages between a supply and use table and institutional sector accounts. The typical focus of a SAM on the role of people in the economy may be reflected by, among other things, extra breakdowns of the household sector and a disaggregated representation of labour markets (i.e., distinguishing various categories of employed persons).

Subsidies: Current unrequited payments that government units, including non-resident government units, make to enterprises based on the levels of their production activities or the quantities or values of the goods or services which they produce, sell or import. Subsidies are introduced for specific social, economic or environmental reasons, for example to provide affordable energy to low-income groups, to stimulate R&D of energy technologies or to reduce pollution by promoting renewable energy.

System of National Accounts (SNA): Consists of a coherent, consistent and integrated set of macroeconomic accounts, balance sheets and tables based on a set of internationally agreed concepts, definitions, classifications and accounting rules.

Transmission and distribution (T&D) losses: Electric loss due to transmission and distribution. These losses consist of both technical losses, such as transmission line loss, and non-technical losses, such as theft. Utilities generally try to minimize non-technical losses but some government owned utilities may tolerate non-technical losses as a socio-economic policy—that is, providing electricity to low-income groups.

Transport equipment (as assets): Equipment for moving people and objects, other than any such equipment acquired by households for final consumption.

Value added (gross): The value of output less the value of intermediate consumption. A measure of the contribution to GDP made by an individual producer, industry or sector. Gross value added is the source from which the primary incomes of the SNA are generated and is therefore carried forward into the primary distribution of income account.

Value added (net): The value of output less the values of both intermediate consumption and consumption of fixed capital.

Vulnerability: Vulnerability is the degree to which a system is susceptible to, and unable to cope with, adverse effects of climate change, including climate variability and extremes. Vulnerability is a function of the character, magnitude and rate of climate change and variation to which a system is exposed, its sensitivity and its adaptive capacity (IPCC 4AR, 2007).

Water resources: Aquifers and other groundwater resources, to the extent that their scarcity leads to the enforcement of ownership and/or use rights, market valuation and some measure of economic control.

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