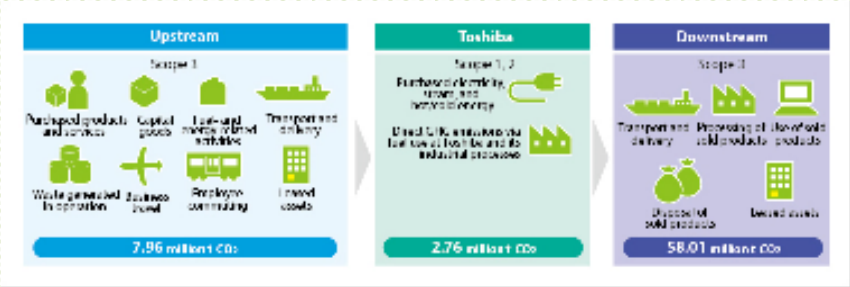
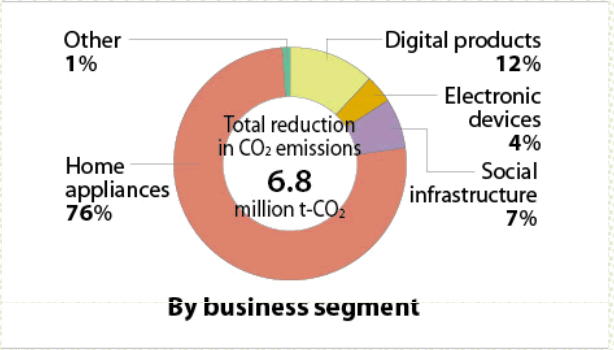
1 TOSHIBA CORPORATION

	Company thinking
☐ **Background and purpose for accounting**	• We have been conducting accounting from the point of view of product LCA for some time. We have been conducting accounting supply chain emissions from 2011 based on the Ministry of the Environment's "Basic Guidelines on Accounting for Greenhouse Gas Emissions Throughout the Supply Chain." • For Toshiba, emissions from the use of sold products phase are the largest, followed by purchased goods and services. • By understanding the phases which have the greatest impact in this way, it is possible to implement reductions measures that are effective throughout the supply chain.  http://www.toshiba.co.jp/env/en/industry/carbon_risk.htm
☐ **Utilization of accounting results**	• We publicize our environmental efforts to appeal to our stakeholders and also use them to improve our corporate reputation. • Assessing our efforts over time is one way to use supply chain emissions accounting, but we do not think it is reasonable to compare the results with those of other companies.
☐ **Advantages of accounting**	• Scope 3 emissions accounting is a fundamental movement as is apparent in the wake of guidelines made by GHG Protocol and CDP disclosure project. We can publicize how far ahead we are in corporate environmental efforts by coping with these at an early stage. • It is possible to quantitatively show the reduction efforts in the entire supply chain. However, in the Scope 3 standard, the calculations also include future emissions from products when they are used, so that We have to note that time range is uneven for all categories such as the usage stage of their products.
☐ **Internal accounting organization**	• Corporate Environment Management Office (at headquarters) calculates by using data collected from other departments. With regard to some categories, data from some typical divisions are used for extrapolation.

TOSHIBA CORPORATION 2

	Company thinking
☐ **To reduce supply chain emissions**	• At Toshiba, emissions from use of sold products is the largest category. With the condition that products will eventually be replaced, we have been calculating the annual avoided CO_2 emissions for all products from the Toshiba Group since fiscal 2011. • In fiscal 2012, we achieved to reduce CO_2 emissions by an aggregate of 6.8 million tons-CO_2/year when compared with 2011. • In addition, we have been using teleconferencing to reduce business trip expenses, but their effect on CO_2 emissions in the total is small and their contribution is limited.
☐ **Tasks to account for supply chain emissions**	• Our products have features such as ranging from size in products made from several hundred parts to those made from tens of thousands or parts, long supply chains, and global parts procurement and production, so that it is impossible to conduct a comprehensive study of all products. • The (1) Secondary data applied and (2) uncertainty and variation of product life cycle scenarios have greater affects on accounting results than corporate activities, so that care must be taken when comparing emissions with other companies or linking them to other economic indices. • There are big differences in emissions accounting accuracy between Scope 1/2 and Scope 3, and there is also a difference in accuracy in Scope 3 categories. Therefore, it is necessary to take precautions when comparing with Scope 1 and 2, and when aggregating Scope 3 emissions.
☐ **For those starting to account for supply chain emissions**	• There is a tradeoff between accounting completeness and accuracy. If accuracy is pursued first, then it is difficult to improve completeness. Therefore, rather than conducting individual studies it is more effective to conduct a comprehensive study, then to improve accuracy.

Breakdown of reductions in CO_2 emissions [FY2012]



http://www.toshiba.co.jp/env/en/products/earth_t.htm

3 TOSHIBA CORPORATION

Category	Accounting methods	
	Activity data	Emission factor
Category 1: Purchased goods and services	• Cost for procuring all procured parts by type at specific device products and assembled products factories. (Approximately 20% coverage to be extrapolated to 100 percent.)	• Emission factor from 3EID
Category 2: Capital goods	• Estimated from companywide capital investment	• Emission factor from 3EID
Category 3: Fuel and energy related activities not included in Scope 1 or 2	• Fuel amount purchased	• Emission factor from resource acquisition to the transport phase
Category 4: Transportation and distribution (upstream)	• Fuel usage (Fuel method) • Transport distance/Fuel (Fuel cost method) • Transport ton/km (Ton-kilometer method)	• Emission factor that are applicable to each activity amount
Category 5: Waste generated in operations	• Emissions by type of waste	• Emission factor per waste type
Category 6: Business travel	• Distances over which high-speed trains and airplanes used	• Passenger-km emission factor
Category 11: Use of sold products	• Easy-LCA (LCA software developed by Toshiba) used to calculate emissions of all products during usage, excluding equipment that supplies electricity. (92 percent of all products)	• Easy-LCA (DB based on 2000 Input-Output tables in Japan)
Category 12: End-of-life treatment of sold products	• Easy-LCA used to calculate the waste/recycle scenario for all refrigerators, air conditioners, washing machines, TVs and PCs to determine their waste/recycle load. (However, recycling that leads to reuse as material is included as a negative.)	• Easy-LCA (DB based on 2000 Input-Output tables in Japan)