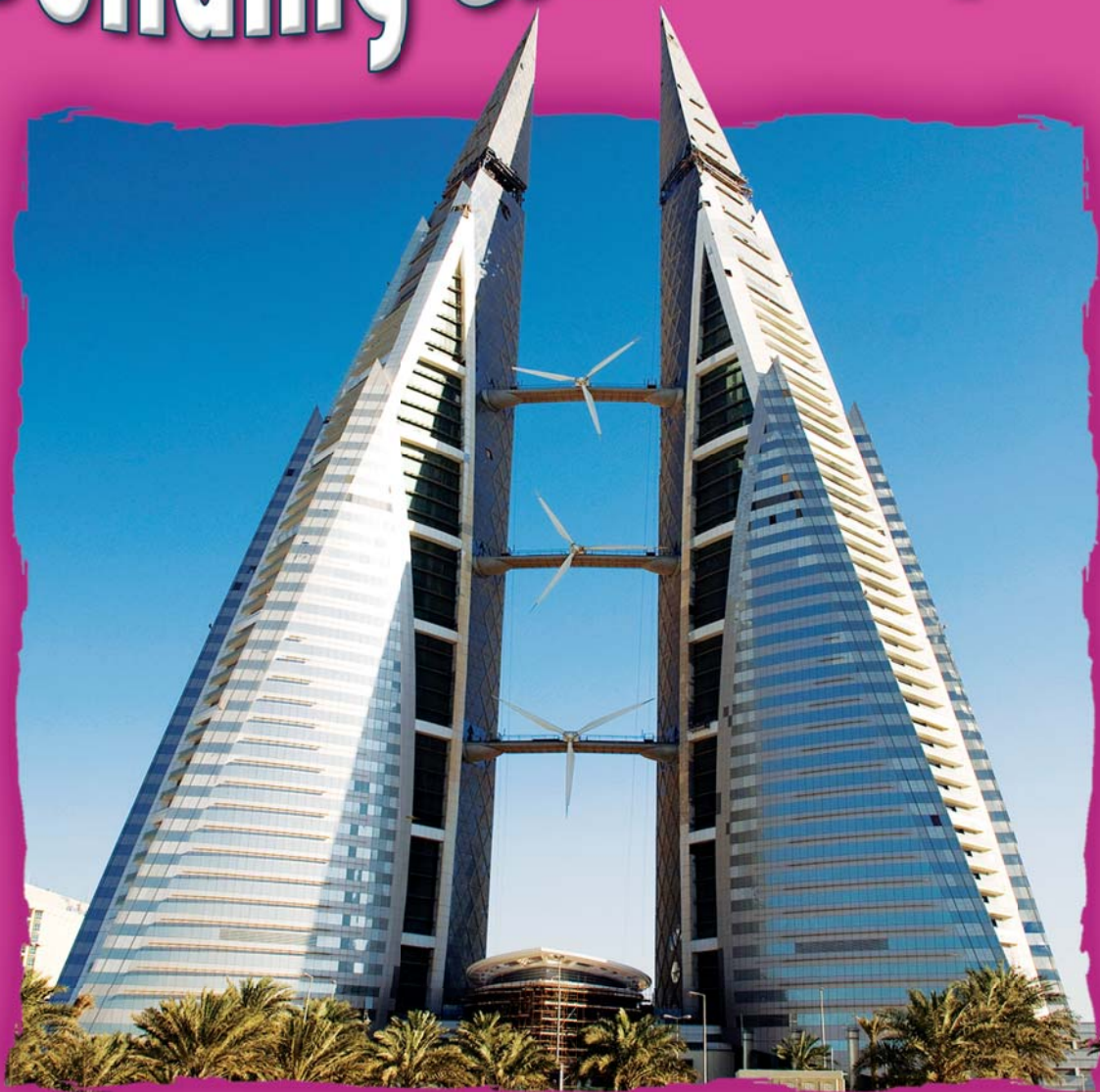


Going
Green

Building Greenscrapers



by Steven L. Stern

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Building Greenscrapers



by Steven L. Stern

Consultant: Frank Robbins, LEED AP
(Leadership in Energy and Environmental Design,
Accredited Professional)

BEARPORT
PUBLISHING

New York, New York

Credits

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Publisher: Kenn Goin

Editorial Director: Adam Siegel

Creative Director: Spencer Brinker

Photo Researcher: Jennifer Bright



The Going Green series is
printed on recycled paper.

Library of Congress Cataloging-in-Publication Data

Stern, Steven L.

Building greenscrapers / by Steven L. Stern ; consultant, Frank Robbins.

p. cm. — (Going green)

Includes bibliographical references and index.

ISBN-13: 978-1-59716-962-2 (library binding)

ISBN-10: 1-59716-962-5 (library binding)

1. Skyscrapers—Environmental aspects—Juvenile literature. 2. Sustainable buildings—Juvenile literature. 3. Building—Environmental aspects—Juvenile literature. I. Robbins, Frank, consultant. II. Title.

TH1615.S74 2010

720'.47—dc22

2009012494

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For more information, write to Bearport Publishing Company, Inc., 101 Fifth Avenue, Suite 6R, New York, New York 10003.

Printed in the United States of America.

10 9 8 7 6 5 4 3 2 1

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What Is a "Greenscraper"?

Millions of people around the world live and work in skyscrapers. With their awesome height and dramatic architecture, these soaring buildings make cities exciting places to visit and explore.

Skyscrapers, however, also create many problems. Large amounts of **natural resources** are needed to build them. Then, after they're built, lots of energy is needed to keep their lights, heating and cooling systems, and computers operating.



Luckily, builders are finding ways to make skyscrapers “green”—that is, more **energy efficient** and friendly toward the environment. These greenscrapers, as green skyscrapers are sometimes called, **conserve** energy and water. They also provide better indoor air for people who work or live in them and release less pollution outside than traditional skyscrapers. Greenscrapers use the latest **technology** to serve people’s needs without harming Earth.

Philadelphia’s skyscrapers



The word *skyscraper* first meant the sail at the top of a ship’s tall mast. In the late 1800s, though, people began using the word to describe buildings that seemed to touch the sky.

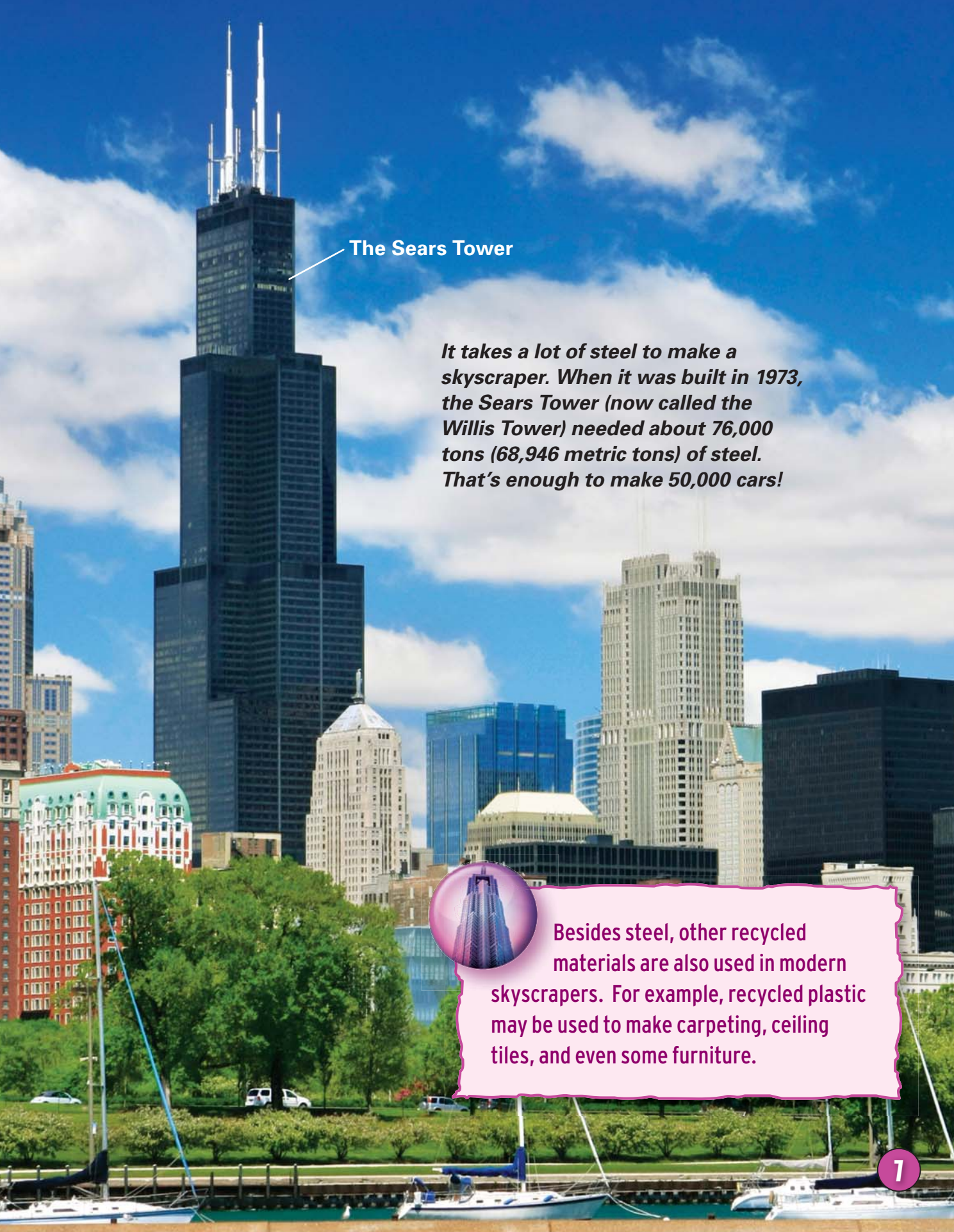
Using Recycled Materials

Skyscrapers are made out of concrete, steel, and other materials. Making buildings from these materials uses up a lot of natural resources that are in **limited** supply. For example, steel is made from iron ore, which has to be mined from the ground. Once Earth's supply of iron ore is used up, there won't be any left—so people have to use it carefully.

To conserve Earth's resources, greenscrapers are built with **recycled** materials. For example, each year millions of tons of steel from old cans and from cars, refrigerators, and other machines are melted to make new steel. Using this recycled steel reduces waste, since the old steel that would have been thrown away is now used to make new steel.

Steel beams and columns form the frame, or "skeleton," of a skyscraper. Concrete is then poured around these supporting pieces.





The Sears Tower

It takes a lot of steel to make a skyscraper. When it was built in 1973, the Sears Tower (now called the Willis Tower) needed about 76,000 tons (68,946 metric tons) of steel. That's enough to make 50,000 cars!



Besides steel, other recycled materials are also used in modern skyscrapers. For example, recycled plastic may be used to make carpeting, ceiling tiles, and even some furniture.

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About the Author

Steven L. Stern has more than 30 years of experience as a writer and textbook editor, developing books, educational products, and informational materials in a wide range of subject areas for children and adults. He is the author of 17 books as well as numerous articles and short stories. He has also worked as a teacher, a lexicographer, and a writing consultant.

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Building Greenscrapers

With their awesome height and dramatic architecture, skyscrapers make cities exciting places to visit and explore. Now there's one more reason to admire these buildings—they're going green!

Skyscrapers often use up large amounts of energy in order to keep their lights, heating and cooling systems, and computers operating. Recently, however, builders have found ways to make skyscrapers "green"—that is, more energy efficient and friendly toward the environment. Look inside to find out the creative ways these "greenscrapers" use the latest technology to meet the needs of the people who work and live in them while at the same time conserving and protecting Earth's precious resources.

Building Greenscrapers

Eating Green

Making Cities Green

Traveling Green

Using Earth's Underground Heat

BEARPORT
PUBLISHING

www.bearportpublishing.com

ISBN-13: 978-1-59716-962-2
ISBN-10: 1-59716-962-5

